

CALIFORNIA
AGRICULTURAL EXTENSION SERVICE

CIRCULAR 71

February, 1933

THE 1933
AGRICULTURAL OUTLOOK
FOR CALIFORNIA

CONTRIBUTION FROM THE
GIANNINI FOUNDATION OF AGRICULTURAL ECONOMICS

Cooperative Extension work in Agriculture and Home Economics, College of Agriculture,
University of California, and United States Department of Agriculture cooperating.

Distributed in furtherance of the Acts of Congress of May 8, and June 30, 1914.

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BERKELEY, CALIFORNIA

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THE 1933 AGRICULTURAL OUTLOOK FOR CALIFORNIA* †

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THE GENERAL PRICE LEVEL AND DEMAND SITUATION

The agricultural situation is vitally affected by changes in the general price level of all commodities. It is further affected by the movement of agricultural prices as compared with other prices, by changes in domestic demand as reflected by business activity, and by changes in foreign demand. The statements here relating to these factors are based on an interpretation of past events and present conditions. It must be recognized, however, that unforeseen developments of a national or world-wide nature might take place which would greatly alter the general price level and demand situation from that which now appears likely.

Since 1929 there has been a world-wide decline in the general price level similar to that which has occurred in the United States. The general price level in the United States in 1932, as measured by the Bureau of Labor Statistics all-commodity index of wholesale prices averaged 34 per cent less than the 1922-1929 average. The present wholesale price level is slightly below the average level which prevailed during 1910-1914. Once under way, this decline tended to initiate conditions leading to further declines. As a result we have a present situation characterized by greatly curtailed industrial production, a low state of business activity, and an acute condition of unemployment. Long-term debts contracted at higher price and income levels are difficult and in some cases impossible to meet. Also taxes and interest rates are now found in many instances to be burdensomely high. Agriculture is in a particularly difficult situation because prices of farm products have fallen much more

* Paper No. 37, The Giannini Foundation of Agricultural Economics.

† In the preparation of this report information was obtained from many sources, among the more important of which are the United States Department of Agriculture Bureau of Agricultural Economics, United States Department of Commerce, California Cooperative Crop Reporting Service, California State Division of Markets, and many cooperative marketing associations and commercial companies. The studies of the Giannini Foundation of Agricultural Economics relating to the factors affecting the supply, demand, and prices of important California farm products provided much of the basis for the interpretations contained herein.

than have prices of most other commodities. In 1932 farm prices averaged 57 per cent less than the 1922–1929 average, whereas prices of commodities which farmers buy declined only 28 per cent during the same period.

Among the factors that would greatly benefit the present situation of agriculture is a rise in the general price level. At present, however, it appears improbable that any substantial rise in the general price level

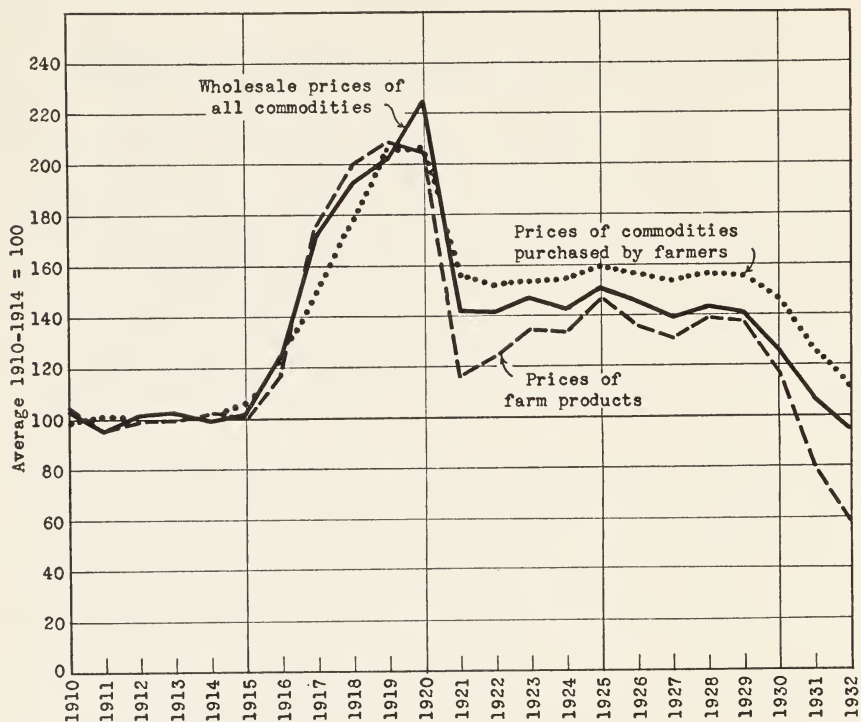


Fig. 1. Indexes of wholesale prices of all commodities, prices of farm products, and prices farmers pay for commodities purchased for living and production purposes.

will occur during 1933. Much has been done to make possible the extension of central bank credit and emergency credit with the view of assisting in the bringing about of a rise in the general price level, but business has not found itself in a position to use this credit for extending productive activity. Thus far, therefore, easy bank credit and emergency credit has been used largely to facilitate orderly liquidation and curtailment of business activity. Easy commercial credit policies are likely to be continued throughout 1933 by the Federal Reserve System. Once business in general finds itself in a position to make use of credit facilities

for productive purposes to a greater extent than is now true, a rise in the general price level may accompany recovery of business activity. By and large, business is not as yet in that position. A recovery of business activity can occur even though the general price level remains stationary. There are, however, still many conditions now prevailing which tend to make a recovery of business activity difficult and slow. These conditions are covered in more detail in the following section dealing with domestic and foreign demand.

Nationalistic policies on the part of the major countries of the world have tended to reduce greatly the volume of international trade which in turn has tended to curtail domestic business activity. The result of this has been to further depress the general price level. Nationalistic policies are characterized by tariff barriers, quotas, embargoes, boycotts, and control of foreign exchange. Up to this time very little has been done to remove barriers to international trade. It is to be hoped that the World Economic Conference, to be held at Geneva sometime during 1933, may accomplish results along these lines.

Certain factors are operating to maintain agricultural prices at a level that is low as compared with other prices. Among these factors are the slowness with which transportation, processing, and other distributing charges can be reduced. Even at this stage of the depression, agriculture has been unable to reduce production in an amount comparable to the contraction in industrial production. Agricultural products will therefore continue for some time to be relatively abundant as compared with other commodities. Population is now shifting from cities to farms, which has the effect of reducing demand for commercially produced agricultural products and of tending to offset reduced production by established farmers.

Domestic Demand.—Unless business activity receives a further setback, some recovery in the domestic demand for California agricultural products from the very low levels now prevailing is likely to occur before the end of the 1933 crop-marketing season.

The Annalist index of business activity has remained practically stable during the four months September to December, 1932, at 17 per cent above the low months of May, June, and July. The Federal Reserve Board index of industrial production for last October and November averaged 12 per cent above the average of June and July. Factory employment has, however, increased only slightly and factory pay rolls have hardly increased at all. This would indicate that the purchasing power of a large portion of the consumers of agricultural products is lower than it was a year ago. Consumers are forced to buy very sparingly

and are less inclined to waste food than when their purchasing power was higher. Consumers' purchasing power will increase as industrial production and business activity improves.

Business activity can recover without a rise in the general price level. Business and industrial production can be as active at one price level as at another, but the change to a lower level necessitates many difficult adjustments. The drastic decline in the general price level that has occurred since 1929 has brought about special problems in connection with recovery of business activity. One type of special problem centers around debtor-creditor relations. Long-term contracts represented by mortgages, bonds, and leases contracted at price and income levels prevailing prior to 1930 are now difficult to meet. Many adjustments in these long-term debts have already been made; many more adjustments must be made before lasting improvement in industrial and business activity can be brought about.

Another important problem arising from major changes in the price level such as that which has occurred since 1929 is that prices of different commodities change very unevenly. Prices have not declined uniformly. Thus many groups in society are unable to trade their goods and services for those of others as freely as they did formerly. For example, agricultural prices have fallen much more than the prices of commodities which farmers buy; as a result farmers are unable to buy as many things as they did prior to 1929. Also taxes and interest charges now take a much larger proportion of the farmer's gross income which further restricts his buying power. Many other people are in a similar situation. Sustaining prices through curtailment of production in industry has not been without serious consequences. Business activity has been further reduced thereby because the burden of curtailing production has not fallen evenly on all labor and capital.

Certain factors are now operating toward a recovery of business activity and certain others are operating to retard it. Factors operating toward recovery are: (1) The price level is declining at a slower rate than during recent years. (2) A part of the necessary adjustments, both in fixed and operating costs, have already been made and many industries have placed themselves in a position to produce at a lower cost per unit. (3) Considering the country as a whole, bank failures are no longer as prevalent as during the past two years and confidence in the solvency of banks has reappeared. (4) Credit is plentiful and interest rates low for those in a position to avail themselves of credit. (5) Replacement of commodities used by consumers and producers is becoming more and more necessary.

Unfavorable factors still remaining to retard business recovery are: (1) the volume of both private and governmental debts remaining unadjusted; (2) the large number of people unemployed in this country and abroad; (3) the extreme nationalistic measures restricting international trade; (4) monetary problems arising from abandonment of the gold standard on the part of many countries. In view of these factors it is likely that the recovery of business activity and the recovery of demand for agricultural products will come about only gradually.

Foreign Demand.—The foreign demand for California agricultural commodities produced in 1933 is not likely to be better than it was in 1932 unless international trade barriers are lowered and the money exchange rates of foreign countries improve.

Many California agricultural products are affected by the trade agreements resulting from the Ottawa Conference involving the British Empire. American products primarily affected by this conference are bacon and hams, wheat, apples, oranges, grapefruit, raisins, prunes, and canned fruits. The United Kingdom has been California's best foreign market. New tariff rates on imports into the United Kingdom from the United States became effective in November, 1932. The rate on apples was changed from 10 per cent ad valorem to 4 shillings 6 pence a British hundredweight (112 pounds). The rate on oranges was changed from 10 per cent ad valorem to 4 shillings 6 pence a British hundredweight, to apply from April 1 to November 1; the rate on grapefruit was changed from 10 per cent to 5 shillings a British hundredweight; the rate on raisins and prunes was changed from 7 shillings to 10 shillings 6 pence a British hundredweight. A 15 per cent ad valorem rate, except for apples and pitted cherries, was added to the former rate on canned fruit which was 11 shillings 8 pence a British hundredweight of sugar content. These rates cannot be readily given in terms of American money so long as the foreign exchange of the pound sterling fluctuates. At par rate of exchange, which is \$4.8665 a pound sterling, a shilling is worth 24 cents and a pence is worth 2 cents. There are 20 shillings in a pound, and 12 pence equal 1 shilling.

In the United Kingdom, industrial activity for the third quarter of 1932 reached the lowest point of the depression, being about 2 per cent under the low level reached just before the abandonment of the gold standard in 1931. German industrial activity also declined to a new low point in August, 1932, but has since made a substantial recovery and in December, 1932, was 8 per cent above December, 1931. French industrial production has expanded, to some extent, since last August largely because of textiles, but industrial activity in that country in the latter

part of 1932 was still substantially below 1931. In Japan all indexes of business activity and production have moved upward since March, 1932. This expansion is to be associated with the sharp decline in the exchange value of the yen during the last six months and with heavy military expenditures.

Another factor which operates to the disadvantage of exports from the United States is the depreciation of many foreign currencies. Thirty-four countries have officially suspended the gold or gold-exchange standard. Eleven other countries are controlling the purchase and sale of foreign exchange. In our important foreign markets the depreciation of the pound sterling has been a particularly adverse feature. From a par of \$4.86 the pound has declined irregularly to an average of \$3.26 for December, 1932, but since has recovered to about \$3.35. Inasmuch as about 50 per cent of the world's trade is carried on by countries closely associated financially and commercially with Great Britain, the downward trend of the pound sterling in 1932 has been an important factor affecting both the market for American agricultural exports and the competition offered by other exporting countries.

With foreign exchange rates against them, many of our foreign customers finds our prices too high as compared to prices of many of our competitors. The effect of this disadvantage is to lower our export prices which forces the producers of export commodities to bear some of the burden of depreciated foreign currencies; the result to foreign trade is similar to that arising from tariffs, quotas, and embargoes. The foreign customer who finds his government restricting the purchase of foreign exchange also finds it difficult or impossible to buy as he formerly did. Until the difficulties arising from depreciated currencies and controlled exchanges in many foreign countries are cleared up, a marked revival in the foreign demand for California agricultural products cannot be expected.

APPLES

Continued heavy production of apples in the United States is in prospect during the coming years. For twenty years economic factors have been forcing an adjustment of the industry until at the beginning of the present business depression (1929) the industry was generally better equipped for the efficient production of apples than at any time in recent years. On the whole it was composed of a relatively large proportion of the better varieties, and production was almost as heavy as twenty years earlier when tree numbers were twice as great. The number of young trees now in commercial orchards would, under conditions of average care, maintain commercial production at a high level for several years.

From 1910 to 1925 there was a net decrease of 79,000,000 apple trees in the United States. From 1925 to 1930 there was another decrease of 21,000,000 trees, making a total decrease of 100,000,000 trees, or 46 per cent in the last twenty years. But in spite of these removals, production during the last five years (1928-1932) has averaged only 7 per cent less than the average for the period 1909-1913, and only about 20 per cent less than for the period of high production, 1914-1918. These smaller declines in production as compared with tree numbers are due to the shift that has taken place from farm to commercial orchards with better locations, to better care of these commercial orchards, and to the increasing bearing capacity of many trees as they have approached or reached full-bearing age.

About twenty years ago, the 11 Pacific Coast and Mountain states produced 19,000,000 bushels of apples a year, whereas they now produce an average of about 56,000,000 bushels annually, an increase of about 195 per cent. At the same time, the number of bearing trees increased 10 per cent, and yield per bearing tree increased from an average of 1.5 bushels to about 4.3 bushels. In these western states production now is apparently close to its peak for the present cycle. In the Pacific Coast states as a group, a very small percentage of the trees is yet to come into bearing and production is being fairly well maintained by tree resets and by an increase in producing capacity of trees due to an increase in their age. Plantings in all of the western apple states have been very light during late years. In the better commercial areas, orchards are generally well cared for, but considerable neglect and at least temporary abandonment is expected if present economic conditions continue long. Low prices for apples are increasing the difficulty of western growers in

marketing. Transportation charges for apples to distant domestic markets are now taking a large part of apple prices.

Apple production in California has risen from an average of 4,851,000 boxes in 1921–1923 to an average of 5,423,000 boxes in 1930–1932. Most of this increase has been in the production of Gravenstein apples in the Sonoma-Napa district. Shipments of Gravensteins from this district averaged only 751,000 boxes in 1921–1923 as against an average of 1,372,000 boxes in 1930–1932, an increase of 83 per cent. During the coming years a further increase in Gravenstein apple production is in prospect. In 1932 the total acreage of apples in Sonoma and Napa counties amounted to 15,000 acres, of which 1,900 acres or 13 per cent were nonbearing. Furthermore, a considerable proportion of the bearing acreage has not yet reached the age of full bearing. In the other counties of the state, which produce mainly fall and winter varieties, only 7 per cent of the total acreage is nonbearing. The combined acreage in bearing in counties other than Sonoma and Napa has experienced a substantial decrease during the past five years, falling from 40,500 acres in 1927 to 32,800 acres in 1932.

Farm prices of Fancy Gravensteins in 1932 averaged only \$0.17 a box, as against \$0.58 a box in 1931 and the five-year 1926–1930 average of \$0.89 a box. Excessive supplies of Gravensteins, keen competition from low-priced storage apples, and depressed buying power of consumers all contributed to the disastrously low prices received in 1932. Shipments from the Napa-Sonoma district in 1932 amounted to 1,952 cars as against 1,671 cars in 1931 and an average of 1,399 cars during the five years 1926–1930. Storage holdings of apples in the United States on June 1, 1932, were 32 per cent above the average of the previous five years. The delivered-auction price of all varieties of apples sold at New York in August, 1932, averaged only \$1.21 a box as against an average of \$2.16 a box in August, 1931.

In the five seasons 1926–27 to 1930–31, apple exports from the United States have averaged 16,480,000 bushels, or one-sixth of the total commercial crop. Exports during the first six months of the 1932–33 season have amounted to the equivalent of 8,800,000 bushels, or 10.4 per cent of the commercial apple crop. This compares with 9.6 per cent of the 1931–32 crop and 12.4 per cent of the 1930–31 commercial crop exported in the corresponding months of those seasons. Export prospects for the second half of the 1932–33 season appear more encouraging from the supply side than they were during the first six months since European home-grown supplies are practically exhausted. Although the United States apple supplies were very short this year, demand conditions are

still at such a low level that prices anything like those which in the past resulted from short supplies seem very unlikely. As to the long-time export situation, world apple production outside of the United States appears to be on a slightly upward trend. This has resulted in a slight increase in the quantity of apples entering into world trade. Fortunately, there has been an increase in the demand for apples which has tended to offset the increased world supplies. On the other hand, the policy of protecting home industries has made rapid strides in recent years in many of the chief importing countries. This policy has led to trade-restrictive measures designed to protect home industries.

APRICOTS

The peak in the upward trend of apricot production in California has about been reached. During the next few years the decline in production from the present bearing acreage is expected to offset the increase in production from the nonbearing and young-bearing acreage. Average production, therefore, is likely to be below the large crops of 1931 and 1932 which were years of unusually high yields per acre. Over a period of years some increase in the buying power of consumers will probably occur. The combination of these factors is expected to result in a rise in the trend of apricot prices from the low level of 1932. During the next two or three years, however, the rise in prices cannot be considerable unless there is a material improvement in business conditions, or yields per acre are radically reduced by unfavorable weather conditions.

The total apricot acreage in California was about 4,000 acres less in 1932 than in 1929, a decrease of 5 per cent. This decrease in total acreage, however, was not accompanied by a corresponding net decrease in bearing acreage since most of the bearing acreage removed during that period was offset by the young acreage that came into bearing. The net decrease in bearing acreage between 1929 and 1932 amounted to only 380 acres. The present nonbearing acreage, amounting to 6,700 acres or 8 per cent of the total acreage, is less than one-half the amount ordinarily needed for normal replacements. With the prospect that removals during the next few years will be considerably above normal and that very few trees will be planted, it is probable that five years hence both total acreage and bearing acreage will be lower than in 1932.

The 1931 and 1932 apricot crops were the largest on record, amounting to 277,000 tons and 270,000 tons respectively as against the 1926-1930 average of 195,000 tons. Weather conditions in those two years were unusually favorable to high yields per acre. In the absence of the con-

tinuation of these high yields per acre, average production during the next few years may be about 20 per cent below that of 1931 and 1932. In addition, it is probable that the necessity for economizing on cultural practices due to low prices will also contribute to lower yields per acre.

During the five years 1926–1930 an average of 64 per cent of the total production of apricots in this state was dried, 28 per cent canned, and 8 per cent shipped fresh. In 1931 and 1932, however, the proportions of the crop dried and shipped fresh were increased while the proportion

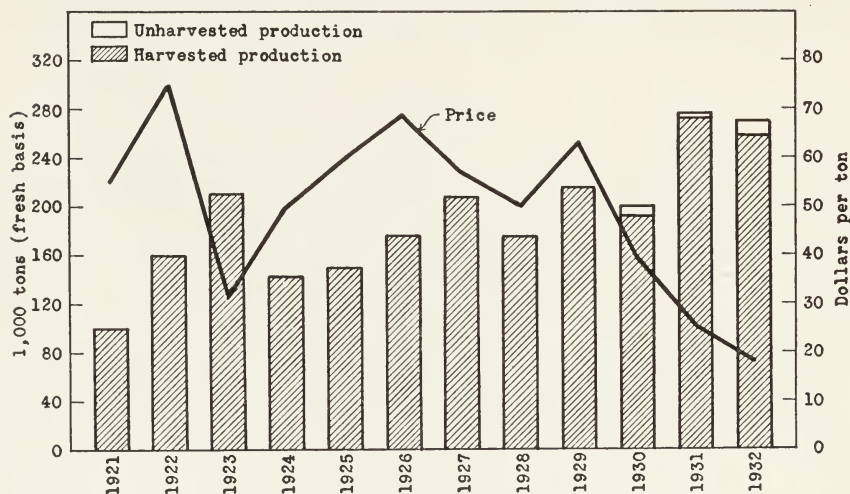


Fig. 2. Production and farm price of apricots in California.

canned was reduced. The low prices paid for canning apricots, together with strict grading, forced many growers who previously sold most of their crop to canners to seek other outlets. In both 1931 and 1932 some tonnage was left unharvested.

Canned Apricots.—Prices paid growers for apricots used for canning in 1932 were the lowest on record. In the Bay counties growers received \$25.00 a ton for apricots averaging 10 to the pound and \$20.00 a ton for those averaging 12 to the pound. In the San Joaquin Valley prices were about \$7.50 a ton lower than in the Bay counties. In 1931 the average price paid in the Bay counties was \$25.00 a ton as against \$40.00 a ton in 1930, and an average of \$61.00 a ton during the nine years 1921–1929.

The pack of canned apricots in 1932 amounted to 1,805,000 cases. The carryover on June 1, 1932, was 515,000 cases, which, together with the 1932 pack, made a total supply available for shipment in 1932–33 of 2,320,000 cases. The total supply available for shipment in 1931–32 was 2,552,000 cases of which 2,037,000 cases were shipped.

Demand conditions are even less favorable this season than they were in 1931-32. The index of factory pay rolls in the United States in October, 1932, was only 42.0 per cent of the 1923-1925 average as against 59.4 per cent in October, 1931. Prices of competing canned fruits, with the exception of pineapples, are lower than a year ago. In December, 1932, canners' quotations on No. 2½ Choice clingstone peaches averaged \$1.10 a dozen cans as against \$1.40 in December, 1931; quotations on No. 2½ Choice pears averaged \$1.50 a dozen as against \$1.70 in 1931; while quotations on No. 2½ Fancy Sliced pineapples averaged \$1.60 a dozen as against \$1.35 in 1931. The depressed buying power of consumers and the reduced prices on canned peaches and pears are primarily responsible for the very low prices now prevailing on canned apricots. From June to December, 1932, quotations on No. 2½ Choice apricots averaged \$1.20 a dozen cans as against \$1.60 during the same seven months of 1931. These low prices together with the prospect of increased import duties in the United Kingdom resulted in a relatively heavy movement of canned apricots. About 45 per cent of the 2,320,000 cases available for shipment in 1932-33 were shipped during the first four months of the season. Although the movement since October 1 has slowed down materially, it is not likely that the carryover on June 1, 1933, will be excessive.

Exports of canned apricots in 1931-32 amounted to 496,000 cases, which constituted 24.4 per cent of the total shipments. Approximately 87 per cent of the total exports that season went to the United Kingdom. During the first four months of the 1932-33 season, exports to the United Kingdom amounted to 304,140 cases as against 196,295 cases during the first four months of the 1931-32 season, an increase of 55 per cent. The chief cause of this heavier export movement was to avoid payment of the increased import duty on canned fruits of 15 per cent ad valorem which became effective November 17, 1932. Exports to countries other than the United Kingdom were 23 per cent smaller during the four months June to September in 1932 than in 1931.

During the four years from 1927-28 to 1930-31 our average annual exports to Canada amounted to 26,200 cases. In 1931-32, however, they amounted to only 2,592 cases, while during the first four months of the 1932-33 season they amounted to only 450 cases. In August, 1931, the Canadian general import duty on canned fruits was raised to 5 cents a pound, which rate practically prohibits us from exporting to that country.

Dried Apricots.—The 1931 output of dried apricots was the largest on record, amounting to 37,359 tons. Preliminary estimates indicate that

the 1932 output will be about 5,000 tons smaller than in 1931, but much above the 1926-1930 average of 22,370 tons.

Packers' quotations on Choice dried apricots for the six months July to December, 1932, averaged 7.1 cents a pound as against 8.4 cents in 1931 and an average of 16.6 cents during the five years 1926-1930. The low prices in 1931 and 1932 as compared with the previous five years were caused mainly by three factors: (1) large supplies, (2) depressed buying power of consumers, and (3) decline in the general price level of all commodities. While there is no immediate prospect for a material improvement in the buying power of consumers either in this country or abroad, a gradual rise may be expected over a period of years. Supplies, while averaging above the 1926-1930 level, are not likely to continue as high as in 1931 and 1932. In the absence of a considerable increase in the volume of money and credit in circulation, the general price level of all commodities is likely to remain below the 1921-1929 average for some years.

Exports of dried apricots during the twelve months July, 1931, to June, 1932, amounted to 18,811 tons, or 50.4 per cent of the total output. Export prices in 1931-32 averaged 9.9 cents a pound as against 12.1 cents in 1930-31. During the first three months of the 1932-33 season exports amounted to 9,247 tons as against 11,477 tons during the same three months of the previous season, which is a decrease of 19 per cent. Export prices have been about 30 per cent lower than last year.

Fresh Apricots.—Interstate shipments of fresh apricots in both 1931 and 1932 were over twice as large as the average of the previous five years, and the f.o.b. prices received for Royal apricots sold in New York and Chicago were less than one-half as high. In 1932 the f.o.b. price a crate was \$0.63 as against \$0.56 in 1931 and an average of \$1.35 for 1926-1930. Interstate shipments in 1932 amounted to 972 cars as against 998 cars in 1931 and an average of 438 cars during the five years 1926-1930.

Eastern markets, even in 1931 and 1932 when interstate shipments were the largest on record, afforded an outlet for less than 12,000 tons of fresh apricots annually. The extreme perishability of this fruit is the chief limiting factor in materially widening its distribution. The necessity for handling apricots quickly makes it desirable to sell them in the few large auction markets rather than in the many private-sale markets. A much wider distribution than obtained in the past two seasons must wait mainly upon improvements in harvesting, packing, and refrigeration methods.

CHERRIES

The trends of cherry production in both California and the Pacific Northwest are still upward. When the present acreage comes into full bearing, crops larger than have yet been produced may be expected whenever yields per acre are above average. Except in years of short crops, prices are likely to remain near the 1932 level until a material improvement in the buying power of consumers occurs.

The 1932 cherry crop in California was short, amounting to only 18,000 tons, of which 1,000 tons were not harvested because of low prices. The condition of the crop was 54 per cent of normal as against 77 per cent in 1931 and an average of 63 per cent for 1921-1930.

During the past six years the average annual increase in the trend of cherry production in this state has amounted to almost 1,000 tons a year. A further substantial rise in the trend of production is to be expected for the next few years although it will probably not be as great as in the past six years. In 1932 the total acreage of cherries in California amounted to 17,900 acres, of which 13,700 acres or 77 per cent were bearing and 4,200 acres or 23 per cent were nonbearing. Approximately 25 per cent of the bearing acreage is less than twelve years of age and therefore not yet in full bearing. The nonbearing and young-bearing acreage is much larger than required to offset a normal decline in present full-bearing acreage.

In Oregon and Washington, the two other most important states producing sweet cherries, production has been increasing rapidly during recent years and a further substantial increase in production is in prospect. In 1930 only 55 per cent of the cherry trees in Oregon were in bearing while in Washington only 60 per cent were in bearing.

Fresh Cherries.—California fresh cherries meet with little competition from those produced in other states. In 1932 the California shipping season began the last week in April and was practically completed by the middle of June. Approximately 93 per cent of the crop had been moved to market before Oregon and Washington began to ship in carlots.

During the past eleven years interstate shipments of California cherries have been increasing at the average rate of 23 cars a year. In 1921 the trend of shipments was at 570 cars, in 1932 at 823 cars. Actual shipments in 1932, amounting to 702 cars, were 15 per cent below the trend, while in 1931 actual shipments amounted to 1,034 cars or 29 per cent above the trend. Despite the smaller shipments, prices were lower in

1932 than in 1931. The average f.o.b. price per box of 8 pounds net in 1932 was \$0.87 as against \$0.95 in 1931. During the five years 1926–1930 the f.o.b. price averaged \$1.69 a box.

From 1921 to 1930 the demand for California fresh cherries in the eastern markets kept pace with the increase in the supply. With the pronounced drop in business activity and employment in this country during the past two years, the demand for fresh cherries has been materially reduced. The demand will undoubtedly remain low until a substantial recovery in the buying power of consumers takes place. And in the meantime the supply available for shipment will be increasing.

Canned Cherries.—The Royal Ann (Napoleon) cherry, the principal variety used for canning on the Pacific Coast, is also used in the manufacture of maraschino and glacé cherries, and small quantities are shipped fresh. As contrasted with fresh cherries, California canned cherries come in direct competition with those packed in the Pacific Northwest. The increasing pack in that section has been one of the important reasons for the downward trend in the California pack during the past decade. The average pack in California during the three years 1928–1930 amounted to 354,000 cases as against an average of 457,000 cases during the three years 1921–1923, a decrease of 23 per cent. On the other hand, the pack in the Pacific Northwest rose from an average of 323,000 cases in 1921–1923 to an average of 652,000 cases in 1928–1930, an increase of 50 per cent. As a result of the depressed demand conditions in 1931 and 1932, the packs in both California and the Pacific Northwest were much below the average of the previous three years.

The 1931 Pacific Coast cherry pack amounted to 420,000 cases which, together with the carryover of 253,000 cases on June 1, 1931, made a total supply of 673,000 cases available for shipment in 1931–32. Shipments during the twelve months June, 1931, to May, 1932, amounted to 597,000 cases leaving a carryover of only 76,000 cases on June 1, 1932. The 1932 pack amounted to 507,000 cases and the total supply available for shipment in 1932–33, therefore, amounts to 583,000 cases, 15 per cent smaller than the supply available for shipment in 1931–32.

Prices paid growers for Royal Ann cherries in 1932 were only 3.0 cents a pound as against 4.0 cents a pound in 1931 and an average of 8.3 cents a pound from 1921 to 1930. Cannery quotations on No. 2½ Choice Royal Ann cherries from June to December, 1932, have averaged \$1.70 a dozen cans as against \$2.35 during the same period of 1931, a decrease of 28 per cent. The reduced buying power of consumers has restricted the demand for canned cherries, which are essentially a luxury product, more than it has for most other canned fruits. Until there is a material

increase in the buying power of consumers, it is probable that both the quantity of cherries canned and the prices received will remain low.

Maraschino Cherries.—The decrease in imports, the limited purchases by canners, and the low prices received for fresh shipments stimulated the use of large quantities of Royal Anns for the manufacture of maraschino and glacé cherries in both 1931 and 1932. In California about 3,350 tons of Royal Anns were barreled in 1931 and 3,600 tons in 1932 as against an average of only 1,330 tons during the previous three years.

In June, 1930, the import duty on cherries sulfured or in brine was raised from 3.0 cents a pound to 5.5 cents a pound with pits and to 9.5 cents a pound with pits removed. Partly as a result of the higher duty and partly as a result of the lower prices prevailing in this country, total United States imports of cherries declined from an average of 15,915,000 pounds for the five years of 1924–25 to 1928–29 to 9,108,000 pounds in 1930–31 and to 6,091,000 pounds in 1931–32. During the first three months of the 1932–33 season, total imports were only 38 per cent as large as in the same period of 1931–32.

GRAPES

Under the economic conditions likely to prevail during the next few years unprofitable surpluses of most California grapes will continue to be produced unless acreage is further reduced. With grape production anywhere near the present normal, organized restriction of the quantity of most grapes marketed will be necessary to secure living wages to California growers unless marketing, transportation, and cash costs of production are reduced to about as low as the general level of all-commodity prices, or demand increases much more than can reasonably be expected.

California yields of 3.6 tons per acre in 1932 were about average and hence the total production of 1,882,000 tons is just about what one would normally expect in the future from the 523,000 acres estimated by the California Crop Reporting Service as in bearing in 1932. About 170,000 tons of the 1932 crop are estimated to have been unharvested. As a result of heavy rainfall in the winter of 1931–32 and the plentiful supply of irrigation water made available thereby, little permanent injury to vines is reported in those sections of California, such as the middle and southern San Joaquin Valley, which were so hard hit in the summer of 1931 by severe drought, untimely hot weather, and grape-leafhopper infestation. Total production of grapes in the United States in 1932 is now estimated at about 2,163,000 tons or close to the average of recent

years. Production of about 280,000 tons in states other than California is somewhat above the average of recent years, constituting 13 per cent of the national grape crop as compared with an average of only about 10 per cent in recent years.

Slightly over 39,000 carloads of fresh grapes were shipped from California in 1932 or approximately 490,000 tons—about 26 per cent of the total grape crop. Shipments from the state in 1931 amounted to 36,800 carloads or about 470,000 tons. In addition to the tonnage shipped in 1932, about 230,000 tons or 12 per cent of the crop is estimated to have

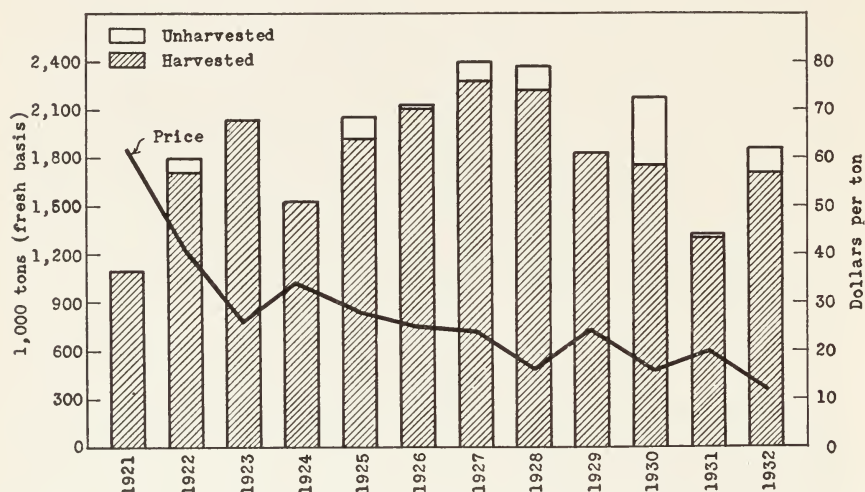


Fig. 3. Production and farm price of grapes in California.

been used in the state, a little over 1,000,000 fresh tons or about 53 per cent of the crop was dried, and 170,000 tons or 9 per cent was unharvested.

Returns to California growers for grapes harvested in 1932 will probably not average over \$11 a fresh ton, the lowest figure in many years. In both 1930 and 1931, returns were nearer \$15 a ton for the tonnage harvested. Estimates of the California Crop Reporting Service indicate that wine grapes averaged growers not over \$12 a ton in 1932 as compared with about \$19 to \$20 in 1930 and 1931. The farm price of harvested table grapes is estimated at not over \$16 in 1932 as compared with about \$35 in 1931 and \$20 in 1930. The 1932 raisin output appears to have returned growers less than \$39 a dry ton to date, or the equivalent of only about \$10 a fresh ton. The farm price in 1930 and 1931 was somewhat under \$60 a dry ton.

Table Grapes.—Unless further reduction in acreage takes place, normal production of the more important California table-grape varieties

will continue to be large enough to hold returns to growers down to almost nothing. Malaga acreage needs to be reduced most since production continues to be large, while demand has been decreasing for both table and juice stock of this variety. In the case of Tokay grapes, demand has not fallen off as much as that for Malagas but still some pulling of vines is needed to eliminate permanently the surpluses that will otherwise be produced in years when yields per acre are normal or larger.

California table-grape production was only 317,000 tons in 1932; but 107,000 tons were not harvested, and growers' returns were not over \$16 a ton for the tonnage harvested. At yields of 3.4 tons per acre, the average of the last ten years, the 99,000 bearing acres of table grapes in California in 1932 would produce about 330,000 tons of grapes. As with nearly all fresh fruits in 1932, the demand for California table grapes was the lowest it has been in many years. Even though shipments of table grapes were the smallest in ten years, prices in eastern markets were likewise the lowest. After making allowance for the low general level of all-commodity prices, the price of table grapes was still below what the small quantity marketed in 1932 would have brought in previous years.

Shipments of table stock, including Thompson Seedless (Sultanina), from California of 15,200 carloads in 1932 brought an average of only \$1.13 a package in eastern delivered-auction markets as compared with \$1.43 a package for the 16,000 carloads shipped in 1931. In 1930, table-stock shipments of 22,500 carloads brought an average of \$1.22 a package; in 1929, 20,200 carloads brought \$1.44 a package; and in 1927 and 1928 peak shipments averaged 26,000 carloads and brought \$1.25 a package. Only about 300 carloads of all table-grape varieties were shipped as juice stock in 1932 as compared with about 2,100 in 1931. True wine-grape varieties are generally preferred for wine-making and since supplies were plentiful, prices were low—a condition which is likely to be normal for several years.

In line with the downward trend in table-grape shipments, only 2,200 carloads of Malaga table stock rolled from the state in 1932 as compared with 3,900 carloads in 1931, 4,190 in 1930, 4,680 in 1929, and an average of 6,260 carloads for the period 1927–1929. Malaga juice-stock shipments amounted to only 236 carloads in 1932 as compared with 1,500 to 2,500 carloads annually since 1926. Even though total Malaga shipments were the smallest in many years, eastern auction prices were also the lowest, averaging only \$0.63 a package for juice stock and \$0.93 for table stock. Auction prices of all Malagas averaged \$1.22 in 1931, \$1.18 in 1930, \$1.37 in 1929, and \$1.25 a package for the years 1927–1929.

Not only has the demand for Malagas for juice purposes declined greatly in eastern markets in recent years, but also the demand for Malaga table stock has suffered because of the popularity of the Thompson Seedless as a table grape. For several years the Thompson Seedless has sold in the East at prices equal to, or better than, those of other important table varieties. Shipments of 4,027 carloads averaged \$1.27 a package in eastern auction markets in 1932 in comparison with \$1.53 for the 3,158 carloads in 1931, and \$1.31 for 4,904 carloads in 1930. In order to continue to maintain satisfactory prices for Thompson Seedless table grapes, care should be exercised to avoid glutting eastern markets, and to ship only well-packed fruit of the best table quality—attractive in flavor and color and with large-sized berries and bunches.

As a result of the operation of the Tokay Clearing House and the limited eastern demand, only about 4,000 carloads of Tokays were shipped from California in 1932 as compared with 4,100 in 1931, 7,700 in 1930, and an average of about 6,300 carloads in the years 1927–1929. Even with limitation of shipments, eastern auction prices of Tokays averaged only \$1.10 a package in 1932, whereas they averaged \$1.59 in 1931, \$1.15 in 1930, and \$1.39 for the years 1927–1929. Upon the basis of a recent study of the marketing of Tokay grapes, E. A. Stokdyk of the Giannini Foundation has concluded that even if the purchasing power of consumers recovers to 1928–1930 levels, if all the tonnage produced in full-crop years from the present acreage is marketed, prices will be unremunerative to even the most efficient producers. Until sufficient reduction of acreage is brought about, a shipment-restriction program is needed.

Raisin Grapes.—Further reduction in the raisin-grape acreage of the state is still needed, for with normal yields per acre, the present acreage is sufficient to produce more grapes than can all be marketed through fresh grape and raisin outlets at satisfactory returns to growers. Sales of both fresh and dried Muscats have been declining greatly in the last five years, and the outlook is for a continuation of prices about as low as those of the past two years if normal production is maintained. The 240,000 acres of raisin grapes in California are estimated to have produced 1,177,000 tons of grapes in 1932, which is about the present normal. With normal yields, the present acreage would produce about 25 or 30 per cent Muscats, less than 5 per cent Sultanas, and 60 to 65 per cent Thompson Seedless. With the decreased shipments of fresh Muscats only about 13 per cent of the harvested raisin-grape crop was so utilized in the last two years, practically all the rest being dried. In the same two years an average of about 30 per cent of the harvested Muscat crop and about 8 per cent of the Thompson Seedless crop have been shipped fresh.

The poor price outlook for Muscats seems to justify further removal of a considerable acreage of this variety, but replacement of Muscats or other crops with Thompson Seedless vines appears to be of questionable wisdom unless those financially responsible for the plantings realize that the average farm price for Thompson Seedless raisins may be less than $2\frac{1}{2}$ cents a pound during the next few years if normal production at home and abroad is not decreased considerably more than is to be expected. Moreover, further planting of Thompson Seedless for the fresh market is risky, since increased shipments from the present acreage might easily glut eastern markets.

Trade estimates indicate that the tonnage of Muscat grapes harvested in California in 1932 was about 270,000 tons as compared with about 160,000 tons in 1931 and an average of about 320,000 tons for the preceding three years, 1928-1930. Although the 1932 crop was considerably smaller than the average of recent years and followed the smallest Muscat crop of the past twenty years, growers' returns from both fresh shipments and dried Muscats were ruinously low. Fresh shipments of 6,212 carloads averaged only 76 cents a package on eastern delivered-auction markets, or less than packing, marketing, and transportation costs. With a relatively large carryover of 1931 Muscat raisins to add to the 1932 crop, growers have received only $1\frac{1}{2}$ to 1 cent a pound for most of the Muscat raisins they have sold. The few that were bought probably have averaged only about $1\frac{1}{4}$ cents a pound. Reports indicate that a substantial majority remain unsold in the hands of growers with prices down to $\frac{3}{4}$ cent a pound since late in November and very few sales made to packers at any price.

California growers received the lowest returns for their 1932 raisins in at least twenty years because of the large world raisin and currant output, the substantial California carryover from 1931, the demise of the California Raisin Pool, the depressed demand, and the low general level of all-commodity prices. California farm prices for the 1932 raisin crop have averaged slightly less than 2 cents a pound to date as compared with nearly 3 cents in 1930 and 1931. The California raisin output in 1932 is estimated at 252,000 tons, the largest crop in the last four years, and in addition about 60,000 tons of the 1931 raisins were carried over into the 1932-33 marketing season. About 50,000 tons of the 1932 California crop are estimated to have been Muscat raisins and about 190,000 tons Thompson Seedless.

Preliminary estimates indicate that the 1932 world raisin and currant output was somewhat over 600,000 short tons, or about 200,000 tons greater than the 1931 crop, but only about 50,000 or 60,000 tons greater

than present normal expectation. Only slightly over 400,000 tons were dried from the unusually small crop of 1931. The big increase in the 1932 crops of California and Smyrna is chiefly responsible for the large world raisin output of 1932—about 440,000 short tons—as compared with a normal of about 400,000 tons from the chief raisin-producing countries of California, Smyrna, Australia, Spain, Greece, and Persia. The 1932 currant production of Australia and Greece, although much larger than in 1931, was close to normal, amounting to about 164,000 tons. In addition to the large normal raisin and currant crops in prospect from the countries enumerated, there are indications that some additional competition may be expected in European markets from raisins grown in Russian Turkestan, the production of which has apparently amounted to about 25,000 tons during the last three or four years.

Raisin surpluses are particularly serious because very large California crops ordinarily return growers considerably less money than medium or small tonnages. Moreover, competition from foreign raisins will normally be as keen in the future as in the past, or perhaps more so. Low export prices for California raisins appear likely, not only because of the large foreign crops in prospect, but also because of lessened demand for our exports in some of our most important foreign markets as a result of trade restrictions that substantially raise the price of our raisins to foreign consumers without a corresponding increase on raisins from other countries receiving preferential treatment. In May, 1930, the Canadian import duty on California raisins was raised from $\frac{2}{3}$ cent a pound to 3 cents, and on June 2, 1931, to 4 cents while imports from Australia and South Africa were admitted duty free. In order to take advantage of this big preferential duty, Australia is now diverting a large part of her exports from the United Kingdom to Canada. The result has been that since 1928 Canadian imports of California raisins have fallen from an average of nearly 20,000 tons (equivalent to sweat-box basis) to only 6,900 tons in 1931–32, while imports from Australia have partially counterbalanced this decline.

World consumption of California raisins has declined markedly in the last few years. Shipments to foreign and domestic markets fell from the post-war peak of 290,000 tons (equivalent to sweat-box basis) in the crop year 1928–29 to 215,000 tons for the two years following, and to not over 180,000 tons in 1931–32. United States consumption fell from 171,000 tons in 1928–29 to about 148,000 tons in 1929–30 and 1930–31, and to about 119,000 tons in 1931–32. Corresponding exports of California raisins fell from 119,000 tons in 1928–29 to about 66,600 tons in

1929-30 and 1930-31, and to 60,900 tons in 1931-32. The decline in our exports to Canada during the last three years has largely been offset by increased shipments to the United Kingdom which has drawn upon California to replace much of the Australian tonnage now diverted from the British Isles to Canada. Smyrna is now the most important competitor of California in the British raisin market.

Wine Grapes.—At yields of 2.5 tons per acre, which appear to be fairly close to the present normal for the state, the 185,000 bearing acres of wine grapes in California in 1932 would produce about 460,000 tons of grapes. Such a large tonnage is in excess of the amount growers can reasonably expect to sell during the next few years at remunerative prices unless most of the conditions determining prices to growers improve much more than is generally anticipated.

Actual yields per acre of California wine grapes in 1932 were only 2.1 tons per acre, with total production of 388,000 tons, of which 42,000 tons are estimated to have been unharvested. Eastern demand was so poor that the 23,827 carloads of juice stock which moved out of the state held the season's average delivered-auction price down to \$0.87 a lug for black wine grapes as compared with \$1.13 in 1931 when total juice-stock shipments were only 20,729 carloads.

PEACHES

Clingstones.—Over a period of years a gradual rise in the trend of prices of clingstone peaches is in prospect. During the next two or three years, however, the rise cannot be great unless a material increase in the buying power of consumers occurs. Production of clingstone peaches, while tending sharply downward, is still greatly in excess of canning requirements under the demand conditions now prevailing.

In 1932, for the first time in the history of the industry, the trend of clingstone-peach production was lower than in the preceding year. While actual production has fluctuated from year to year, the trend of production up to 1931 was always upward. But in 1932 it turned downward. Between 1928 and 1930 the net decrease in the total acreage of Tuscons, New Midsummers, and Phillips (the only varieties now used for canning) amounted to 5,159 acres; 7,041 acres were removed and 1,882 acres were planted. Between 1930 and 1932 only 169 acres were planted while 13,329 acres were removed, a net decrease of 13,160 acres. During those four years the removal of older trees was offset to a considerable extent by young trees coming into bearing. The acreage four years of age and older was only 6,326 acres smaller in 1932 than in 1928,

whereas the total acreage was 18,319 acres smaller. Further large reductions in total acreage must of necessity be accompanied by a relatively large reduction in bearing acreage, since in 1932 only 2,051 acres out of a total of 49,692 acres of Tuscons, New Midsummers, and Phillips were less than four years of age.

During the next few years a further decline in the trend of clingstone-peach production is likely to occur as a result of reduced yields per acre and a decrease in bearing acreage. Plantings since 1928 have not been

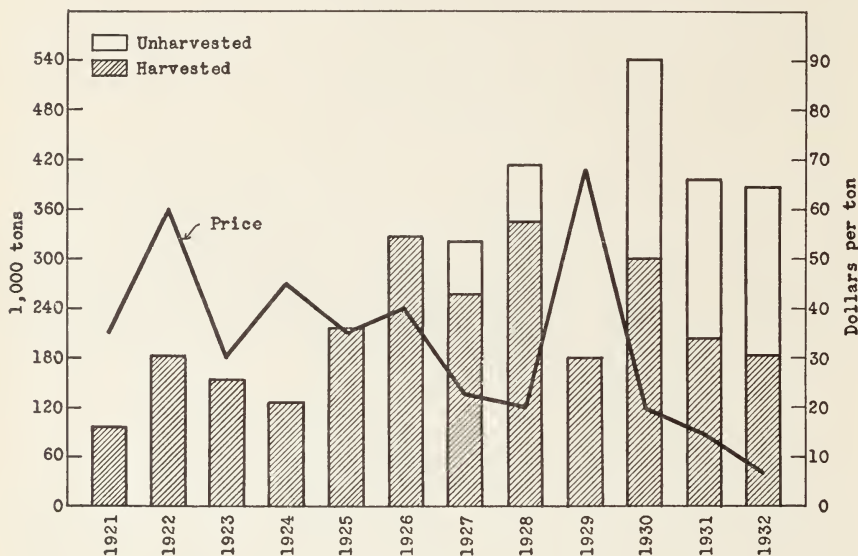


Fig. 4. Production and farm price of clingstone peaches in California.

sufficient to offset the normal removal of trees due to old age. Low prices may cause many trees to be removed before they reach the normal old-age limit of twenty years. Considerable acreage is likely to be abandoned or neglected to such an extent that it will be very costly, if not impossible, to bring it back into good condition. The present bearing acreage is now at about the peak of maximum bearing capacity and as the orchards become older a gradual decrease in bearing capacity is to be expected. The necessity for reducing costs will cause growers to economize on cultural practices which will tend to result in reduced yields per acre. All of these forces are expected to cause a sharp downward trend in production during the next few years. It will be some time, however, before a sufficient reduction has occurred to enable the entire production of No. 1 canning peaches to be sold at a price as high as \$20 a ton, except in seasons of very short crops, unless there is a material improve-

ment in the buying power of consumers. The trend of production of No. 1 Tuscons, New Midsummers, and Phillips in 1932, based upon average yields per acre, was at 307,000 tons, which at 46 cases per ton is equivalent to over 14,000,000 cases. Actual shipments in 1931-32, a year when the average cost of raw fruit to canners was \$20 a ton, amounted to only 7,500,000 cases. Demand conditions were more favorable in 1931-32 than they are this season.

Prices paid growers for clingstone peaches in 1932 were the lowest on record averaging only \$6.50 a ton, and in addition large quantities were unsold. In both 1930 and 1931 when industry-control programs were in operation, the surplus peaches were purchased and left on the trees. In this way the prices to growers were maintained at \$20.00 and \$14.50 a ton respectively for fruit delivered to canners and at those prices less the cost of picking and hauling for fruit purchased on the trees. In 1932, however, a control program was not undertaken. The results were disastrously low prices to growers and a pack considerably in excess of what should have been canned.

The 1932 pack of canned peaches amounted to 6,438,000 cases which, with the carryover of 4,845,000 cases on June 1, 1932, made a total supply available for shipment during the 1932-33 season of 11,283,000 cases. Actual shipments in 1931-32 amounted to 7,527,000 cases. Although the buying power of consumers is now lower than a year ago, shipments of canned peaches this season will probably exceed those of last season and the carryover on June 1, 1933, is expected to be less than one-half as large as it was on June 1, 1932. Prices of No. 2½ Choice clingstone peaches which were maintained at about \$1.45 a dozen cans in 1931-32 have been reduced to around \$1.10 a dozen cans. Last season canned peaches were relatively expensive as compared with competing canned fruits; this season they are relatively cheap.

Between June 1 and October 1 the shipments of canned peaches were 1,477,000 cases larger in 1932 than in 1931, an increase of 44 per cent. A part of this increase was the result of the lower prices mentioned above and a part the result of the increase in the United Kingdom tariff of 15 per cent ad valorem on canned fruits which went into effect November 17, 1932. In order to escape the higher duty in prospect, heavy shipments were rushed forward prior to the date it became effective. During the four months June to September, 1932, United States exports of canned peaches to the United Kingdom amounted to 1,047,000 cases as against 551,000 cases during the same months of 1931, an increase of 90 per cent. Exports to countries other than the United Kingdom, however, were smaller.

In September, 1931, the United Kingdom abandoned the gold standard and the resulting decline in the value of the English pound sterling in terms of United States dollars has adversely affected our exports to that country. In November, 1932, the exchange rate in pound sterling averaged \$3.2760 as against a par of \$4.8665, a decrease of 33 per cent. This decrease together with the recent increase in the tariff has greatly accentuated the difficulties caused by the pronounced decline in the buying power of British consumers.

The Canadian market formerly provided an outlet for around 150,000 cases of California canned peaches annually. In August, 1931, Canada placed a general import duty of 5 cents a pound on canned fruits. In 1931-32 exports to Canada amounted to only 9,711 cases as against an average of 148,573 cases during the previous five years. Thus far in the 1932-33 season, exports to Canada have been running 55 per cent under the corresponding period of last season.

Freestones.—As contrasted with the pronounced upward trend in the production of clingstone peaches in California during the past decade, there has been a slightly downward trend in the production of freestone peaches. All of this decrease, however, has been in freestones used for canning. The output of dried peaches and the shipments of fresh peaches have experienced no significant change.

Indications are that a further downward trend in freestone-peach production will occur during the coming years. In 1932 the total acreage of freestones in California amounted to 59,800 acres of which 54,850 acres or 92 per cent were in bearing. The nonbearing acreage amounting to 4,950 acres is less than one-half the amount ordinarily required for normal replacements. The majority of the freestone-peach trees in the state is past the age of maximum bearing capacity and many of them will normally be removed within the next five years. In 1932 nearly 80 per cent of the bearing acreage was ten years of age and older.

During the past three years prices of dried peaches, like the prices of all other products, have been adversely affected by the decline in the general price level and the decrease in the buying power of consumers. Packers' quotations on Choice Muirs for the period, August to December, 1932, averaged 4.7 cents a pound as against 6.8 cents a pound in both 1930 and 1931. From 1921 to 1929 there was no downward trend in the prices of dried peaches, a distinct contrast to the situation that prevailed in most other deciduous fruits. For those nine years production of dried peaches had not increased and the demand for them had remained fairly constant. With the prospect of a decrease in the trend of production of dried peaches during the next few years some improve-

ment in prices from the low level of 1932 may be expected; and if in the meantime a material increase in the buying power of consumers occurs, the improvement may be relatively rapid.

Producers of dried peaches are not as dependent upon export markets as are producers of dried apricots and prunes. On the average about 50 per cent of the total output of dried apricots and prunes are exported, whereas an average of only 15 per cent of the output of our dried peaches are exported.

Although the fresh-peach crop in the southern states was very short in 1932, the depressed buying power of consumers and the large shipments from this state resulted in very low prices to California shippers of fresh peaches. Total carlot shipments of peaches from all states other than California amounted to only 10,471 cars in 1932 as against 35,211 cars in 1931 and an average of 29,618 cars during the previous five years. Interstate shipments of fresh peaches from California amounted to 3,280 cars in 1932 as against 1,864 cars in 1931 and an average of 3,282 cars for the period, 1926-1930. Prices of California Elbertas at Chicago were the lowest since 1915, amounting to only \$0.65 a box as against \$0.89 in 1931 and an average of \$0.99 for the five years, 1926-1930. Because of the relatively high fixed charges for freight and refrigeration, the decline in prices in eastern markets has greatly aggravated the farm price situation in California. The cost of freight and refrigeration to Chicago is \$0.4472 for a standard box of peaches. With the average auction price at Chicago of only \$0.65 a box, the deductions for commission charges of 7 per cent plus freight and refrigeration costs gave an average f.o.b. price of only \$0.16 a box in 1932 which was less than the average cost of picking, hauling, packing, and loading. Until transportation charges are materially reduced or the buying power of consumers is materially increased, eastern markets are not likely to afford an outlet for as large a volume of California peaches as was shipped in 1932 at any increase in the f.o.b. price. Competition from peaches produced in other states is likely to average materially above that prevailing in 1932.

The 1932 peach crop in the eleven southern states was less than one-fourth as large as in 1931 and only about one-third as large as the average production of the five years, 1926-1930. Although the trend of production in that area is downward, crops materially larger than in 1932 may be expected during the next few years whenever weather conditions are average.

PEARS

Unless blight, black-end, or some unexpected factor takes unusually heavy toll from the pear industry in the next few years, normal pear crops as large as those of recent years may be expected on the Pacific Coast. With large crops in prospect, not only of pears, but of many other fruits, and an unfavorable monetary and demand outlook, California pear prices will probably return little, if anything, above costs of picking and hauling in years of average yields per acre or higher, unless

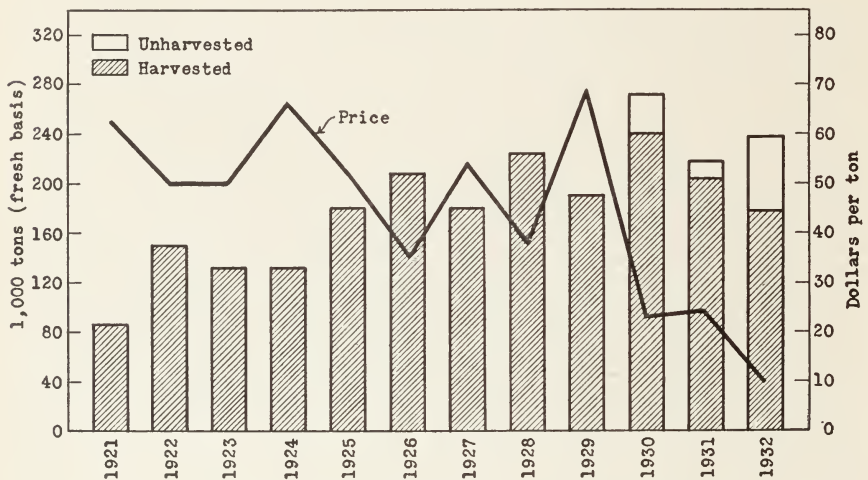


Fig. 5. Production and farm price of pears in California.

drastic curtailment of the tonnage marketed is effected by the united effort of growers, shippers, canners, and all other groups vitally dependent on the industry. Prospects for any substantial improvement in foreign demand for some time are uncertain and discouraging, considering foreign business and employment conditions in general, the adverse exchange situation, and the trade restrictions our products are encountering in many countries.

Revised data of the California Crop Reporting Service indicate that almost 70,000 acres of pears were in bearing in the state in 1932, or nearly double the acreage of ten years ago, with slightly over 12,000 acres not yet in bearing. Since 1929, however, approximately 8,700 acres appear to have been abandoned or pulled. Under the economic conditions likely to prevail during the next few years still further reduction in acreage undoubtedly will, and should, take place for many growers in

certain sections of the state normally produce such low yields or such an inferior quality of pears that it will be to their advantage to discontinue pear growing as a commercial enterprise. However, growers will probably have to suffer two or three years more of very low prices before any substantial decrease in acreage may be expected.

The preliminary estimate of the 1932 California pear crop of 238,000 tons is the same as the average of the fairly normal crop years of 1931, 1930, and 1928. However, only about 178,000 tons of the 1932 crop were harvested. The tonnage unharvested is estimated at 60,000 tons as compared with 15,000 tons in 1931 and 31,000 in 1930. Compared with 1932, the total California pear crop was 218,000 tons in 1931, 272,000 tons in 1930 (the largest crop on record), 190,000 tons in 1929 (a crop greatly reduced by frost), and 225,000 tons in 1928. California contributed 43 per cent of the national crop in 1932, as compared with 39 per cent in 1931, 44 per cent in 1930, and 38 per cent in 1929. United States production, including the unharvested tonnage, all in California, in 1932 was about 526,000 tons as compared with 558,000 in 1931 and 615,000 in 1930. About 75 per cent of the crop was produced in California, Oregon, Washington, and Idaho in 1932 as compared with 63 per cent in 1931, 78 per cent in 1930, and 66 per cent in 1929. The total production of these four states amounted to 396,000 tons in 1932 as compared with 355,000 tons in 1931 and 457,000 tons in 1930.

Pear yields for the state as a whole averaged 3.4 tons per acre during the five years 1927-1931, the same as the yield indicated by preliminary production estimates for 1932. Whether state yields per acre will rise or decline is uncertain as two important changes working in opposite directions are taking place in the industry. On the one hand, as the young-bearing acreage comes into heavier bearing, yields per acre are tending to increase. Since approximately half of the present bearing acreage has been in bearing only about ten years, the potential increase in yields per tree from a long-lived, slow-growing tree like the pear is significant. On the other hand, it appears likely that the low prices likely to prevail for pears during the next few years will result in the neglect of many orchards, since growers' returns will be so low as to necessitate drastic reductions in cultural operations and costs in order to make both ends meet. What the net result of these two counteracting influences on yields per acre will be during the next few years cannot be predicted with accuracy. However, there is but little doubt that yields and average crops about as large as those in 1932, and possibly larger, will be the rule in the near future, barring serious blight epidemics or other unforeseen events.

Fresh Bartletts.—The 1932 Pacific Coast Bartlett season proved to be the most unprofitable in at least thirty years. The average price to growers for picked fruit was less than \$10 a ton in spite of the fact that about 60,000 tons of California pears, mostly Bartletts, were not harvested at all. The eastern market for fresh Bartletts was most disastrous, even though interstate rail shipments of California Bartletts in 1932 were the lightest in the last eight years. Including exports to overseas markets, only about 5,500 carloads of fresh Bartletts probably moved from the state in 1932, which was at least 20 per cent less than in 1931; yet growers' returns averaged not over \$8 a ton at the packing house as compared with about \$30 in 1931. Oregon and Washington growers fared even worse, since eastern prices on the whole failed to pay much, if any, more than costs of packing, shipping, and selling. About a thousand carloads of fresh Bartlett shipments from California were equally unprofitable, returning nothing but "red ink" at the packing house in 1932. Approximately an additional thousand carloads returned, over and above marketing and transportation charges, only about enough to cover picking and hauling costs.

Analysis indicates that if fresh Bartlett shipments had been restricted to about 4,000 carloads, California growers' returns, as a whole, from this source would probably have been at least three times as great as they were. Since practically no improvement in the market for fresh Bartletts is expected in 1933, it appears that if anything like a normal crop matures, shipments should be restricted drastically in order to secure reasonable returns to growers. Even after 1933, substantial restriction will probably be desirable in years of average production, for several years may elapse before world economic conditions improve enough to increase markedly the incomes of those who purchase California Bartlett pears.

Of the total of nearly 110,000 bearing acres of pears on the Pacific Coast, approximately 75 per cent are Bartletts and 25 per cent other varieties, which, with the major exception of the Hardy (Beurre Hardy), are harvested too late to compete with most California Bartletts. In California the 60,000 acres of bearing Bartletts constitute about 86 per cent of the bearing acreage of all varieties. In Oregon and Washington about 55 per cent of the bearing acreage is in Bartletts.

Rough estimates for three years of fairly normal yields per acre, 1928, 1930, and 1931, indicate an average production of about 290,000 tons of Bartletts on the Pacific Coast, or about 76 per cent of total production of all varieties. California produced about 196,000 tons, or 67 or 68 per cent of these Bartletts. The 1932 California Bartlett crop

probably amounted to at least 200,000 tons out of the state total of 238,000 tons. Of the 60,000 tons of this total estimated as unharvested, perhaps 90 per cent were Bartletts.

Bartletts have usually constituted between 70 and 80 per cent of California interstate shipments of fresh pears in recent years. Nearly all of the tonnage of pears utilized commercially for canning and drying in the United States are Pacific Coast Bartletts. The commercial drying industry has been confined to California alone, but Oregon and Washington together have contributed at least half of the canned pack in recent years.

Canning Bartletts.—Commercial canning of pears in the United States is usually confined to Pacific Coast Bartletts. The canned pack on the Pacific Coast averaged nearly 4,000,000 cases a year in 1928, 1930, and 1931, utilizing an average of 105,000 tons, or about 37 per cent of the harvested Bartlett tonnage. The tonnage canned during these years averaged approximately one-fourth of the California harvested Bartlett crop, and about 60 per cent of the Northwest crop. Ten years ago Oregon and Washington contributed only about 25 per cent of the Pacific Coast canned-pear pack, but during the three years 1928, 1930, and 1931 their contribution averaged just half of the total. Present estimates indicate that in 1932 about 48,000 tons of Northwest Bartletts were canned as compared with only about 34,000 tons in California. The disastrously low returns from eastern sales of Northwest fresh Bartletts this year, may result in growers from that section diverting a larger proportion of next year's crop into canning, which would increase competition for California canning Bartletts.

Although canning Bartletts brought more than fresh shipments in 1932, the quantity canned was less than usual, particularly in California. California growers probably averaged between \$13 and \$14 a ton for No. 1 canning Bartletts. In Oregon and Washington the canning price was apparently not over \$8 a ton. With packing and hauling costs of perhaps \$3 a ton to be paid by growers, it is evident that the balance from both fresh shipments and cannery tonnage left little to pay for spraying, pruning, and cultural costs; this indicates that unless future prices are substantially better many growers cannot afford to care for their orchards. Obviously but little care can be given to trees that bring a gross return of only \$15 or \$20 an acre, which appears to have been the case with California Bartletts for the 1932 season.

The 1932 Pacific Coast canned Bartlett pack was approximately 3,100,000 cases (equivalent to 24 No. 2½ cans) as compared with 3,652,000 cases in 1931 and an average of 4,173,000 cases for the preced-

ing three years. With 24 per cent of the 1931 pack of Pacific Coast Bartletts still on hand on June 1, 1932, total supplies available for sale at the beginning of the 1932-33 marketing season amounted to nearly 4,000,000 cases, at least 10 per cent less than supplies in sight the preceding year but still nearly 10 per cent more than was sold by Pacific Coast canners during the 1931-32 season. Pacific Coast canners' shipments for the season beginning June 1, 1931, of 3,672,000 cases sold at an average of \$2.64 a case, as compared with shipments of 4,216,000 cases in 1930-31 at \$3.54 a case and 3,582,000 cases in 1929-30 at \$4.82 a case. Prices to California growers for canning Bartletts averaged about \$14 for No. 1's in 1932 in contrast to \$20 in 1931 and about \$30 in 1930.

The available data show conclusively that the extremely low prices for the 1931-32 and 1932-33 season were not due to increased supplies and shipments of Pacific Coast canned pears or, to any extent, other canned fruits. Rather they have been due primarily to the decline in the general level of all-commodity prices and to the greatly reduced demand resulting from the low purchasing power attendant upon widespread unemployment in the United States and the United Kingdom, the two countries which consume at least 95 per cent of the world output of canned pears. The adverse exchange rate for the pound sterling has also restricted our sales and lowered the prices at which we have been able to sell in the British market since September, 1931. There is little to indicate that employment, business conditions, and the general level of prices both at home and abroad are likely to be any better during the coming year than they have been during the past year; hence improvement in prices as conditioned by these factors is remote. Moreover, since November 17, 1932, the United Kingdom, which has absorbed 90 per cent of our canned-pear exports in recent years, has added a 15 per cent ad valorem duty on imports of our canned pears. This will undoubtedly restrict sales there, for it is the equivalent of a tax of \$15 to \$20 a ton on canning pears entering that market.

Late Varieties.—The 1932 Pacific Coast crop of late varieties of pears is proving even more unprofitable than was the 1930 crop, with eastern prices averaging considerably below the Bartlett average. Two of the most important late varieties—Bosc (Beurre Bosc) and Comice—have averaged less than costs of packing, transportation, storage, and selling. For the 1932 season through December 31, sales of these two varieties from Oregon and California averaged only about \$1.75 a box on the New York auction market, and Anjou approximately \$1.95, or more than \$1 a box less than in 1931. These disastrously low prices were not due so much to heavy supplies as to the generally depressed level of all prices

and the greatly restricted demand resulting from lack of consumer purchasing power.

The results of the 1932 season only emphasize more strongly previous forecasts for fall and winter varieties of pears. Production has increased so much that rail shipments of these varieties from the Pacific Coast are already about four times as great as they were ten years ago. Moreover, the percentage of late-pear trees still to come into full bearing is larger than for Bartletts both in California and in the Pacific Northwest, indicating that the production of these varieties on the Pacific Coast will increase at even a greater rate than Bartletts for several years to come. Nearly half of the late-pear acreage on the Pacific Coast is either of nonbearing or of young-bearing age, and in California alone about 75 per cent has still to reach the age of full bearing. Unless the unexpected happens, it appears, therefore, that a further rapid increase in the upward trend of late-pear production on the Pacific Coast will take place for a number of years.

There can be no doubt that drastic restriction of Pacific Coast shipments of late varieties will be necessary for several years if growers are to secure even their picking and hauling costs in years when crops are normal or even somewhat smaller. With prospects for very low prices on the average for several years, substantial losses might be avoided by pulling trees of the varieties not well suited to the land on which they are planted.

PLUMS

The production of plums in California is nearing a peak. The nonbearing and young-bearing acreage is not much larger than is necessary to offset the decline in the present full-bearing acreage. Heavy production and low prices are to be expected for a number of years, however, whenever yields per acre are average or above.

The 1932 crop of plums in California is now estimated at 68,000 tons, as against 65,000 tons in 1931. In both 1931 and 1932 some tonnage was unharvested because of low prices. Yields per acre in 1932 were slightly above average. The condition of the crop was 77 per cent of normal as against the 1921-1931 average of 74 per cent.

During the past decade there has been an upward trend in plum production in this state rising from 44,000 tons in 1921 to 65,000 tons in 1931, an average annual increase of 2,100 tons. While a further rise in the trend of production may occur, it is not expected to be large. The probability is that average production during the next five years will not exceed 65,000 or 70,000 tons, and it may be smaller if considerable

acreage is removed or the orchards are much neglected. In 1932 the total acreage of plums in California amounted to 35,200 acres, of which 31,950 acres or 91 per cent was in bearing. Fully 80 per cent of the bearing acreage is now in full bearing. The decrease in production from the full-bearing acreage as the result of normal removals is not likely to be rapid, since the average life of a plum tree is about forty years. The present nonbearing acreage of 3,350 acres is sufficient to offset most of the removals due to old age during the next five years. It is probable, however, that some trees will be removed or abandoned before they reach the normal old-age limit of forty years, and to the extent that this is done bearing acreage will be correspondingly reduced.

Although plums are produced in other sections of the United States, particularly in the Pacific Northwest, they do not reach the markets in considerable volume until the California shipping season is over. In 1932 approximately 92 per cent of the California fresh plums were shipped in May, June, and July, and for those three months California shipments constituted 99 per cent of the total United States shipments.

Interstate shipments of plums from California amounted to 3,890 cars in 1932, as against 3,967 cars in 1931, and an average of 4,505 cars for the five years 1926-1930. From 1921 to 1930 there was an upward trend in interstate shipments, rising at an average rate of 170 cars a year. The demand for California fresh plums in the eastern markets during those nine years kept pace with the upward trend in shipments, and consequently there was no downward trend in prices. In 1931 and 1932, however, the average f.o.b. prices of the eleven principal varieties of plums fell to \$0.75 and \$0.61 a crate respectively as against an average of \$1.10 a crate during the previous five years, despite the fact that interstate shipments in 1931 were 12 per cent below and in 1932 14 per cent below the 1926-1930 average. The pronounced decrease in the buying power of consumers and the sharp decline in the general price level were primarily responsible for the low prices received for plums in the past two years. No material improvement in plum prices from the low level of 1932 can be expected unless there is a material increase in the buying power of consumers or shipments are further reduced. With average weather conditions, supplies available for shipment for the next few years will probably average as large as the volume shipped in 1932, when 9,000 tons were unharvested because of low prices. Over a period of years some improvement in business activity and employment is likely to occur, which will result in an increase in the demand for plums. There is no immediate prospect, however, that business activity and employment in this country will quickly return to normal. The pro-

nounced decline in the general price level of all commodities during the past three years has apparently been checked. No further large decrease is expected, but neither is it likely to return to the 1921-1929 average unless there is a very large increase in the volume of money and credit in circulation. A part of the decrease in gross returns caused by the fall in the prices of plums has been offset by a decrease in the cost of producing them. Prices of commodities that farmers buy for both living and production purposes were about 28 per cent lower in 1932 than the 1921-1929 average.

From 1928 to 1931 an average of 2,400 tons of plums produced in California was canned, which constituted 4 per cent of the total production. The pack in 1932 amounted to 72,000 cases, as against 95,000 cases in 1931 and an average of 171,000 cases during the five years 1926-1930. From 1921 to 1930 there was no definitely upward or downward trend in the pack of canned plums in this state. In the Pacific Northwest, however, there was a material increase. The combined canned pack of prunes and plums in that section increased from an average of 225,000 cases in 1921-1923 to an average of 820,000 cases in 1929-1931. Prices of canned plums, in sympathy with the prices of other canned fruits, have fallen during the past two years. The opening price on No. 2½ Choice plums (advertised brands) in 1932 was \$1.30 a dozen cans, as against \$1.50 in 1931 and \$1.60 in 1930. With the prospect of continued keen competition from other canned fruits, it does not appear that canning will afford an outlet for any substantial proportion of the California plum crop.

PRUNES

World prune crops will probably continue to be as large as the average of recent years with prices averaging about as low as in 1932, unless an unexpected reduction in acreage takes place, and the general price level and demand rise more than is anticipated. Such a large majority of the Pacific Coast prune acreage is in full bearing that whenever yields per acre are average or better, crops about as large as in recent years may be expected. Moreover, Jugoslavian production and exports appear likely to increase to above the average of the past three years. Increased competition from this source may, therefore, be expected in the next few years in European markets as long as unfavorable business, employment, and monetary conditions, together with trade restrictions, continue to limit foreign-market outlets.

Preliminary estimates indicate the 1932 commercial dried-prune crop of the world to be about 230,000 tons as compared with an average for

recent years of approximately 250,000 tons. Short 1932 crops in California, the Pacific Northwest, and France were offset to a considerable extent by a big increase in Jugoslavian production and by the very large California carryover from the 1931 crop. The net result has been that world prune tonnage, which should be marketed during the 1932-33 season, was nearly as large as average world consumption in recent years, and fully as large as prospective world crops.

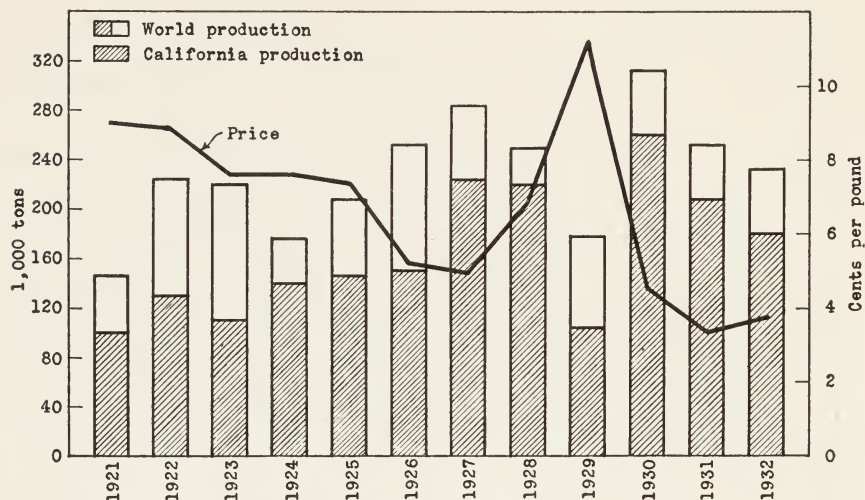


Fig. 6. World production of prunes, and price paid California growers for 40/50's.

With the aid of the United Prune Growers of California, the new state-wide cooperative marketing organization, opening f.o.b. prices were established in September at about 1 cent a pound higher than had prevailed during the previous six months. The opening base price to growers established in September for Santa Clara, Napa, and Sonoma prunes was approximately 2 cents for grader-test sizes, 34's through 86's. Although these 1932 opening prices are lower than 1931 opening prices, if they continue to be maintained or raised, growers will probably receive more a ton for their 1932 crop than they did for the 1931 crop. There was a drastic decline in prices during the 1931-32 season, and many growers sold on open contracts which were closed at the low prices prevailing in the latter part of the season.

Estimates of the 1932 California prune crop were revised downward during the growing season, with the latest official estimate at 181,000 dried tons, of which 4,000 tons are believed to have been unharvested. Many in the trade now estimate the harvested tonnage at not over

170,000 dried tons. State dried-prune production in 1931 was 208,000 tons, all harvested; in 1930, 261,000 tons, of which 13,000 tons were unharvested; in 1929, 103,000 tons; in 1928, 221,000 tons; and in 1927, 225,000 tons.

As the proportion of prune acreage in California approaching the age of full bearing has increased in recent years, the trend of average yields per bearing acre has been upward. Yields per bearing acre for the six years, 1921-1926, which fluctuated but little from year to year, averaged nearly 1.1 dried tons per acre according to the official data of the California Crop Reporting Service. During the last six years, 1927-1932, the average was 1.2 dried tons, with yields varying from 0.6 dried ton in 1929 to 1.6 dried tons in 1930. By omitting the extraordinarily low and high yields of 1929 and 1930, the state average is raised to about 1.25 dried tons per bearing acre.

Revised data of the California Crop Reporting Service indicate that the bearing prune acreage of the state reached its maximum in 1929 with slightly over 171,000 acres, and with an additional 15,000 acres not yet in bearing. By 1932 the nonbearing acreage was about 12,000 acres, or less than 7 per cent of the total acreage. From 1928 to 1932 about 7,000 acres of bearing and nonbearing trees evidently were abandoned or pulled. About 85 per cent of the 170,000 acres in bearing in 1932 was over thirteen years of age and therefore is capable of producing heavy yields per acre under normal conditions. Under the conditions of recent years with yields of 1.25 dry tons per acre, the 1932 bearing acreage of the state would normally produce a crop of about 210,000 dried tons. However, the economic conditions likely to prevail during the next few years will probably result in some pulling of trees and in neglect and reduction in cultural care of many orchards, so that bearing acreage may be expected to decrease somewhat and usual yields per bearing acre may fall below 1.25 dried tons. The net result may be average crops under 210,000 tons but still large enough to hold prices at a low level even with efficient marketing and effective stimulation of demand.

The 1932 prune crop of Oregon and Washington is officially estimated at about 22,500 dried tons as compared with an average of 29,000 tons for the preceding five years. Trade estimates indicate that a fresh tonnage equivalent to between 2,000 and 3,000 tons of dry prunes was unharvested from acreage with low yields of small fruit which did not appear to justify the cost of picking at the low prune prices prevailing. Production in dried tons in 1931 was 30,800 tons, in 1930, 29,500 (of which 8,000 were unharvested), in 1929, 58,400, and in 1928, 6,400 tons. Although bearing acreage is likely to decline somewhat in the next few

years, largely as the result of economic pressure, production for some time may be expected to average about as large as in recent years. However, changing weather conditions may cause as much fluctuation from year to year as they have in the past.

Foreign Situation.—Although the Jugoslavian production of all prunes and exports of dried prunes have decreased greatly in recent years, the trend of bearing acreage and production during the next decade will probably be upward. The decline in recent years was caused chiefly by heavy tree losses and greatly reduced yields per tree, resulting from the rapid spread of brown apricot scale. Unfavorable weather conditions have also cut down yields in the last few years. From the post-war peak of over 1,000,000 fresh tons in 1925 and 1926, Jugoslavian prune production fell steadily until it amounted to only about 300,000 fresh tons in 1930. Likewise, exports of dried prunes declined from about 50,000 dried tons a year in 1925 and 1926 to an average of only about 10,000 dried tons from the crops of 1929, 1930, and 1931. Part of this decline in dried-prune exports is accounted for by the rapid increase in fresh-prune exports from Jugoslavia in recent years. From an average of less than 10,000 fresh tons a year previous to 1926, fresh-prune exports rose to approximately 50,000 fresh tons in 1931.

Present information indicates that the 1932 Jugoslavian prune crop and exportable surplus of dried prunes are the largest since 1927, with an exportable surplus of dried prunes for the 1932-33 marketing season now estimated at about 25,000 dried tons. Moreover, reports from foreign representatives of the United States Department of Agriculture indicate that the trend of prune production and dried-prune exports may be upward in the future because of a considerable number of prune trees that have been planted in commercial-producing districts of Jugoslavia in recent years, and planting is expected to continue. Since many of the recent plantings have been made with the fresh-shipment outlet in view, exports of dried prunes to foreign markets are not likely to increase as rapidly as production.

The tonnage of prunes produced in France frequently fluctuates greatly from one season to the next. Preliminary estimates of about 2,000 dried tons for the Bordeaux area indicate that the 1932 crop was one of the smallest in recent years. Production in this district, which constitutes about 90 per cent of the total French output, was 4,500 dried tons in 1931, 17,000 in 1930, 4,800 in 1929, 2,400 in 1928, and 6,100 in 1927, averaging approximately 7,000 dried tons for these five years. The largest crop of the past ten years was 22,000 dried tons,

harvested in 1923. Aside from the 17,000 tons produced in 1930 no other crop in the past decade has exceeded the 1926 harvest of 9,400 tons.

In spite of the encouragement afforded by high import duties now amounting to 2.85 cents a pound on large unprocessed prunes and packed prunes and 2.16 cents a pound on all unpacked prunes and sizes smaller than 60/70's, it is generally believed that future production in the Bordeaux area will not average any greater than in recent years. Moreover, although high import duties will undoubtedly restrict imports somewhat, France is likely to continue to be on a substantial import basis, taking a large majority of her supplies from California, as in the past. During the five years, 1927-1931, when their home production averaged 7,000 dried tons, the French people consumed approximately 27,000 dried tons of prunes annually, of which about 19,000 dried tons came from the United States. Nearly 16 per cent of our total exports of prunes was absorbed by France during that period.

Adverse economic conditions in foreign countries, together with continually declining prune prices, caused United States exports during the 1931-32 prune-marketing season to decline 21 per cent below those of the preceding year, even though our exportable supplies were plentiful and foreign production light. Moreover, even with stable prune prices, exports for the 1932 season appear likely to be substantially less than in 1931-32, since the tonnage exported in the three months beginning September 1, 1932, was 27 per cent below the corresponding movement a year previous, largely because the October movement was so small. Increased exports of Jugoslavian prunes are in part responsible for this further decline. United States dried-prune exports amounted to 120,197 tons during the year beginning September 1, 1931, as compared with 152,674 tons in 1930-31, 71,318 in 1929-30, and approximately 134,000 in both 1928-29 and 1927-28.

In spite of the adverse effect of the decline in the value of the pound sterling, the United Kingdom maintained its imports of our prunes at as high a level in 1931-32 as in 1930-31, and France did likewise. The big decline in our exports from 1930-31 to 1931-32 was largely the result of greatly reduced exports to Germany, the Netherlands, and Belgium. Although Germany maintained its position as the biggest foreign market for our prunes, United States exports to Germany in 1931-32 were 41 per cent less than in 1930-31. Present indications are that a still further decline will take place this season since exports to Germany for the first three months of the 1932-33 season were 36 per cent below the corresponding movement of the previous season. Substantial recovery of the European markets is dependent upon more

rapid improvement in foreign economic conditions and international relations than is generally expected in the next year or two. Moreover, European imports of our prunes may be retarded by some increase in normal supplies of Jugoslavian prunes in the next few years.

GRAPEFRUIT

A pronounced upward trend in world grapefruit production is in prospect during the coming years. Supplies available for the domestic markets and competition in the foreign markets promise to be considerably greater when the present acreage comes into full bearing. The potential increase in production is expected to retard an improvement in grapefruit prices arising out of any recovery in the buying power of consumers. This, together with the prospect that the general price level will continue below the 1921-1929 average, points toward much lower grapefruit prices in this country than the average of recent years. The outlook for summer grapefruit, however, is more favorable than the outlook for winter grapefruit.

During the three years 1929-30 to 1931-32 the commercial production of grapefruit in the United States averaged 11,354,000 boxes as against an average of 8,123,000 boxes for the three years of 1922-23 to 1924-25, an increase of 40 per cent. A further substantial increase is in prospect during the coming years. Florida now has about 95,000 acres of grapefruit, of which less than 40 per cent is in full bearing. Of the 86,000 acres of grapefruit in Texas only 24 per cent is in bearing and practically none is in full production. Arizona, with an estimated acreage of 14,000 acres, has only 30 per cent in bearing. The total grapefruit acreage in California in 1932 amounted to 17,000 acres, of which 4,800 acres or 28 per cent were nonbearing and 12,200 acres or 72 per cent in bearing. Almost one-half of the bearing acreage has come into bearing since 1927 and is not yet in full bearing. Most of the increase in acreage in California during recent years has been in the Imperial and Coachella valleys. The shipment of their fruit occurs at the same time as that from Florida, Texas, and Arizona. While many of the plantings of grapefruit during the past decade were made in relatively new areas upon which there is little evidence to base an estimate of probable production, it is evident that the large acreage recently planted may result in excessive supplies if most of it comes into full bearing.

From 1921-22 to 1929-30 there was an upward trend in grapefruit prices, despite the substantial increase in shipments. During this period the demand for grapefruit was increasing rapidly. With the pronounced decrease in the buying power of consumers for the past three years the

demand for grapefruit has been sharply curtailed. In 1931-32 the average f.o.b. price received for California grapefruit shipped during the six months of November to April was \$1.66 a packed box as against \$2.71 a packed box in 1928-29, a year when total United States shipments were only slightly smaller than in 1931-32. In 1930-31 when United States shipments were larger than 1931-32, the average f.o.b. price was \$2.23 a packed box. The available estimates indicate that the supplies of grapefruit this season are smaller than last season, but the buying power of consumers is also lower. Until there is a substantial improvement in the buying power of consumers no material increase in grapefruit prices from those prevailing in 1931-32 is in prospect except in seasons of very short crops, while in seasons of large crops even lower prices may be received.

Export outlets for United States grapefruit are being restricted by poor foreign demand conditions, increasing supplies from other countries, rising tariff barriers, and depreciation in foreign exchange. From 1922-23 to 1930-31 exports of grapefruit from this country increased from 260,000 boxes to 1,361,000 boxes. In 1931-32, however, they were reduced to 1,119,000 boxes. In June, 1931, Canada placed a tariff of about 70 cents a box on grapefruit from this country. In September, 1931, the United Kingdom went off the gold standard with a resulting decline of about 33 per cent in the value of the English pound sterling in terms of United States dollars. In November, 1932, the United Kingdom levied an import duty of 5 shillings per 112 pounds (equivalent to about 50 cents a box at the present rate of exchange) on grapefruit from this country. This rate is effective from April 1 to November 30 of each year while in the other months the duty is 10 per cent ad valorem. Grapefruit produced in Empire countries is permitted to enter the United Kingdom and Canada duty free. The trends of grapefruit production in the Empire countries of the Union of South Africa, Palestine, Trinidad, and Jamaica are sharply upward. In 1931-32 exports from the first three mentioned countries were the largest on record while shipments from Jamaica were near a record quantity. Exports from the Isle of Pines in 1931-32 were also the largest on record while some grapefruit went forward from Spain, British Honduras, Brazil, and Argentina. Although Brazil and Argentina are not yet important grapefruit-exporting countries, they are likely to be in the future.

Usually the bulk of the United States shipments of grapefruit during the three months of July to September originate in California. The principal counties in California shipping summer grapefruit are San Bernardino and Los Angeles. The total acreage of grapefruit in these

two counties in 1932 amounted to 3,260 acres of which 830 acres or 25 per cent were nonbearing and 2,430 acres or 75 per cent were in bearing. Approximately 15 per cent of the bearing acreage has come into bearing since 1927 and is not therefore in full bearing. As the bearing capacity of the present nonbearing and young-bearing acreages increases a further upward trend in the shipments of summer grapefruit from California may be expected. Prior to the present business depression the increase in shipments of summer grapefruit, although relatively large, was not sufficient to cause a downward trend in prices. In fact the average f.o.b. price received during the three years 1928-1930 was \$4.32 a packed box as against an average of \$2.80 a packed box during the three years 1923-1925. In 1931 the f.o.b. price received for grapefruit shipped during the three months of July to September dropped to \$2.14 a packed box. Total United States supplies of summer grapefruit in 1931, amounting to 883,000 boxes, were 55 per cent above the average of the previous three years. Both shipments from California and receipts from Porto Rico were the largest on record, amounting to 348,000 boxes and 371,000 boxes respectively. During the three months July to September, 1932, shipments from California were reduced to 282,000 boxes while receipts from Porto Rico fell to 45,000 boxes. Chiefly as a result of the smaller United States supplies of summer grapefruit in 1932 than in 1931, average f.o.b. prices were maintained at approximately the same level despite the reduction in buying power of consumers. Unless shipments of Florida grapefruit in September, 1933, should be unusually heavy as they were in September, 1930, United States supplies of summer grapefruit in 1933 are again likely to be relatively light. The recent hurricane virtually destroyed the 1932-33 Porto Rican grapefruit crop.

While the prospective increase in production of summer grapefruit and the continued low general price level may effectively prevent the return to the high prices of 1925 to 1930, even after business activity and employment in this country are again normal, future prices of summer grapefruit are likely to be more favorable than those of winter grapefruit. In the past the demand for summer grapefruit in this country has increased more rapidly than the demand for winter grapefruit. The potential increase in production during the coming years is much greater in the case of winter grapefruit than in the case of summer grapefruit.

Canning of grapefruit in Florida increased nearly seven fold between 1925-26 and 1930-31. In 1930-31 the pack amounted to 2,712,000 cases as against only 400,000 cases in 1925-26. As a result of the heavy carry-over from the 1930-31 season and the very low prices, the 1931-32 pack was reduced to 907,000 cases.

LEMONS

Continued heavy plantings of lemons in California may lead to surpluses so large that it will be extremely difficult if not impossible to handle them. The lemon acreage in California is now on the verge of becoming excessively large. Growers should not, therefore, expect this industry to maintain its present relatively favorable position if they continue to plant additional acreage.

The relatively favorable returns from lemon production during the past five years have stimulated plantings. The nonbearing acreage was three times as large in 1932 as in 1927. Exclusive of 1932 plantings, the total lemon acreage in California in 1932 amounted to 46,600 acres of which 5,230 acres or 11 per cent were nonbearing. Only 4 per cent of the total acreage in 1927 was nonbearing. The small nonbearing acreage in 1927 was not sufficient to offset removals and consequently there was a slight decrease in bearing acreage in 1928 and 1929. The present nonbearing acreage, exclusive of 1932 plantings, however, is about twice as large as that needed for normal replacements. In addition, around 1,750 acres of lemons were planted in Ventura County and 300 acres in Santa Barbara County in 1932. As all the new acreage comes into bearing an upward trend in production will occur.

For many years prior to 1926-27 the trend of lemon production in California was sharply upward, but since 1926-27 there has been only a small rise. Although the bearing acreage of lemons remained almost stationary between 1921 and 1927, a relatively large proportion of the bearing trees in 1921 were young. As these trees became older, yields were heavier which accounts for most of the increase in production between 1921-22 and 1926-27. During the five years 1926-27 to 1930-31, total production of lemons averaged 6,720,000 boxes annually, 28 per cent above the average of the previous five years. The total production of lemons in 1931-32 amounted to 7,000,000 boxes, 12 per cent below that of 1930-31, but 4 per cent above the average of 1926-27 to 1930-31.

Total shipments from California in 1931-32, amounting to 5,249,000 boxes, were only 1 per cent below the average of the previous five years while the average f.o.b. price in 1931-32 of \$3.70 a box was 19 per cent below that of the previous five years. Considering the low level of business activity and employment in this country during 1931-32, average prices were well maintained and were relatively much higher than those of most farm products.

The relatively high average price received for California lemons in 1931-32 is accounted for mainly by four factors: (1) Shipments of lemons were regulated so as to avoid excessive supplies in the markets, particularly during the winter and spring months when the lemon picks were exceedingly heavy. F.o.b. prices of lemons during this period, although 12 per cent below those of the corresponding period for 1930-31, were not disastrously low, and the volume of lemons shipped was only 2 per cent smaller than in 1930-31. (2) Summer-lemon shipments were light owing to frost damage. During the five months June to October, 1932, shipments from California amounted to only 2,392,330 boxes as against 3,150,494 boxes during the same period of 1931. (3) The hot weather in consuming markets was favorable to a heavy demand for lemons. In the four months June to September, 1932, temperatures in the fourteen principal lemon markets of the United States averaged 1.6 degrees above normal. (4) Competition from imported lemons was negligible. Imports in 1931-32 amounted to only 99,000 boxes as against 284,000 boxes in 1930-31 and an average of 966,600 boxes during the five years 1925-26 to 1929-30.

In 1931-32 for the first time in the history of the industry, the United States was on a net export basis with respect to lemons. Exports of lemons in 1931-32 amounted to 233,000 boxes, 134,000 boxes larger than the imports. The very small imports in 1931-32 are partly accounted for by the import duty of 2.5 cents a pound, partly by the small Italian lemon crop which amounted to 10,940,000 boxes as against 14,534,000 boxes in 1930-31, and partly by large supplies of lemons in California available for shipment during the winter and spring months which increased the speculative hazard in importing lemons. It is not expected, however, that imports during the coming years will average as low as in 1931-32. While no material increase in lemon production in Italy is in prospect, neither is there likely to be a substantial decline. The abandonment of the gold standard by the United Kingdom and other European countries has made the United States a relatively favorable market for Italian lemons. If the United States tariff on lemons should be reduced, the resulting large increase in imports would restrict the demand for California lemons and add materially to the difficulties of handling the surplus.

During the past decade there was a substantial increase in the demand for lemons in this country and a material reduction in imports. But despite these conditions a large surplus of lemons has been produced in California in six of the past nine years, and a small surplus has been produced in each of the other years. If shipments of lemons from this

state had not been regulated and if large supplies had not been diverted to by-products or dumped in seasons of heavy crops, returns to lemon growers would have been disastrously low.

The depressing effects of the decline in the general price level and the decrease in the buying power of consumers since 1929 upon lemon prices have been in part offset by the increased demand for lemons caused by the hot summers in eastern markets. During each of the past three summers, temperatures in the principal consuming markets have been much above normal. In 1930 temperatures in fourteen cities during the four months June to September averaged 2.5 degrees Fahrenheit above normal; in 1931, 3.5 degrees above normal; and in 1932, 1.6 degrees above normal. The summer of 1931 was the warmest in twenty years, and at no time since 1910 have we had three summers in succession as warm as those of 1930, 1931, and 1932. A continuation of above normal temperatures and the resulting favorable demand for lemons cannot safely be counted on. Over a period of years an increase in the buying power of consumers in this country is expected but it is not likely to occur quickly. If in the meantime summer temperatures in eastern markets should become normal or below, shipments as large as those of the past three summers cannot be sold at prices as high.

From the long-time point of view the most unfavorable factors in the lemon situation are: (1) that the general price level is likely to continue below the 1921-1929 average even after business activity and employment return to normal, and (2) that plantings of lemons may continue. The influence of the first factor may be partly offset by the reduction in the costs of producing lemons. Prices of commodities that growers buy for living and production purposes are also likely to remain below the 1921-1929 average. Large increases in future production can be avoided by the cessation of plantings. Some further increase in the trend of demand for lemons is probable which may provide an outlet for a part of the prospective increase in production from the acreage planted during the past few years. The industry has already demonstrated its ability to take care of moderate surpluses successfully, but no methods have yet been devised to assure growers returns above even the cash costs of production in the face of constantly increasing surpluses.

ORANGES

Increasing world production of oranges and grapefruit, low general price level of all commodities, reduced buying power of consumers, and trade restrictions in our principal foreign markets all point toward substantially lower prices to California orange growers than the average of recent years. Nearly every country in the world that is adapted to the production of oranges and grapefruit has greatly increased its acreage of these fruits. Competition in our principal export markets from supplies produced in foreign countries is becoming keener. In the United States the trends of orange and grapefruit production are upward. The buying power of consumers, both in this country and abroad, is now very low. Over a period of years an increase in consumer buying power may be expected, but it is not likely to occur quickly. By the time business activity and employment again return to normal, crops of both oranges and grapefruit, materially larger than those yet produced, are in prospect whenever yields per acre are above average. This larger prospective production, together with the probability that the general price level in the absence of an increase in the volume of money and credit in circulation will continue below the 1921-1929 average, may keep orange prices at a level considerably lower than that which existed in the past decade. Prices of commodities which growers buy for living and production purposes, however, are also expected to be lower which may offset a part of the decline in orange prices.

As long as the buying power of consumers remains at the present low level, production of oranges in years of average yields per acre is likely to be burdensome and in years of high yields per acre, excessive. Under these conditions returns to California orange growers cannot be large. There is little need, however, for returns to be disastrously low if, in years of large crops, shipments from this state are limited to the requirements of the markets. Since only a part of the United States supply of winter oranges comes from this state, limitation of California Navel shipments cannot be as effective in increasing returns per acre as could the limitation of our Valencia shipments. But even in the case of Navels, effective regulation of shipments as to markets, quantity, and quality would materially assist in preventing losses.

Winter Oranges.—In 1931-32 shipments of winter oranges from California amounted to 15,126,000 boxes as against 15,526,000 boxes in 1930-31 and an average of 13,876,000 boxes during the five years 1927-28 to 1931-32. For the first five years of the past decade 1920-21 to 1924-25, shipments averaged 10,242,000 boxes a year, 26 per cent

below the average of the past five years. While a further upward trend in shipments of winter oranges from California may occur during the coming years, it is not likely to be large and will consist largely of Valencia oranges marketed in November. The peak of production of Navel oranges, which constitutes the bulk of our shipments during the six months November to April inclusive, has about been reached. Most of the Navel orange acreage in California is now in full bearing. The present nonbearing acreage, amounting to only 4,700 acres or 5 per cent of the total acreage, is not much more than sufficient for normal replacements. The bearing acreage in 1932, amounting to 94,170 acres, was only 2 per cent larger than in 1927.

The major increase in the United States supply of winter oranges will be from Florida. The trend of winter-orange shipments from Florida has risen from 6,400,000 boxes in 1920-21 to 12,400,000 boxes in 1931-32, an average increase of 545,000 boxes a year. The proportion of nonbearing and young-bearing trees in Florida is apparently sufficient to permit the trend of production to continue upward at about the same rate for some years to come. The estimated acreage of oranges, tangerines, and Satsumas in Florida is now around 268,000 acres. The nonbearing acreage, constituting 15 per cent of the total acreage, is nearly equal to the full-bearing acreage. Approximately 65 per cent of the acreage, although in bearing, is from five to fifteen years of age and has not yet come into full production.

A substantial increase in orange production is in prospect in Texas while some increase is in prospect in Arizona. Oranges from both of these states are marketed in the winter months. The total acreage of oranges in the lower Rio Grande Valley of Texas in 1932 amounted to about 23,900 acres, of which 14,530 acres or 60 per cent were not in bearing. Of the 9,350 acres in bearing in 1932 only a small proportion was in full bearing. Carlot shipments of oranges from Texas in 1931-32 reached 200 cars as against only 33 cars in 1928-29.

The pronounced decrease in the buying power of consumers during the past three years has adversely affected the demand for winter oranges in this country. In 1931-32 the average f.o.b price received for packed fruit shipped during the six months of November to April was \$1.92 a box. In 1928-29 when the United States winter-orange supply was about the same as in 1931-32, the average f.o.b. price was \$2.80 a box. Demand conditions this winter are even more unfavorable than in 1931-32.

Export markets are not likely to afford a large additional outlet for winter oranges produced in this country. During the five years 1926-27

to 1930–31, the average exports of winter oranges from the United States amounted to 1,759,000 boxes which constituted 7 per cent of our total shipments. In those five years Canada took an average of 1,493,000 boxes or 85 per cent of our total exports. In June, 1931, Canada placed an import duty of 75 cents a box on oranges from this country. The United States orange industry must either bear a part of the burden of the Canadian duty or ship fewer oranges to Canada or both. Any reduction in shipments of oranges to Canada must, of course, result in a larger volume to be disposed of in the domestic markets or in foreign markets other than Canada. United States exports of oranges to Canada during the six months November, 1931, to April, 1932, amounted to 1,254,000 boxes, 16 per cent below the average of the previous five years. Total United States shipments of winter oranges in 1931–32, however, were 12 per cent larger than the average of the previous five years. United States exports of oranges to European countries during the winter months are restricted by heavy supplies of low-priced oranges from Spain, Italy, and Palestine. In Palestine the trend of orange production is sharply upward while in Spain a moderate increase is in prospect.

Summer Oranges.—As contrasted with the winter-orange situation, California producers of summer oranges experience little competition in the domestic markets from oranges and grapefruit produced in other states of the Union. Except in May and October practically all of the United States shipments of summer oranges originate in this state.

California shipments of summer oranges, which are mainly Valencias, have been increasing at a rapid rate. In 1921 the trend of shipments was at 7,000,000 boxes, in 1932 at 14,700,000 boxes; this is an average annual increase of 700,000 boxes a year. Actual shipments in both 1931 and 1932 were considerably above the trend, amounting to 16,426,000 boxes and 16,011,000 boxes respectively. Average shipments for the five years 1926–1930 amounted to 11,834,000 boxes. The available data on acreage indicate that the future rise in the trend of shipments will be at least as rapid as in the past. In 1932 the total acreage of Valencia oranges in California, exclusive of 1932 plantings, amounted to 131,140 acres of which 23,880 acres or 18 per cent were nonbearing. About 18,760 acres of the 107,260 acres in bearing in 1932 have been in bearing only since 1927 and have not yet reached full-bearing age.

From 1921 to 1930 the trend of demand for summer oranges rose even more rapidly than the trend of shipments. Consequently there was a small upward trend in prices during that period. The average f.o.b. price during the five years 1921–1925 amounted to \$3.81 a packed box, as against an average of \$4.43 a packed box during the five years 1926–

1930, despite the fact that shipments were 40 per cent larger in the latter five-year period than in the earlier one. In 1931 the average f.o.b. price was \$2.39 a packed box, and in 1932 \$1.93 a packed box. The pronounced fall in price in 1931 and 1932 as compared with the average of the previous five years is mainly accounted for by three factors: (1) larger supplies, (2) decline in the general price level, and (3) decrease in the buying power of consumers.

In 1931 and 1932 United States shipments of summer oranges, 92 per cent of which came from California, averaged 17,562,000 boxes as against an average of 12,738,000 boxes for the previous five years. During the coming years supplies even larger than in 1931 and 1932 will be available for shipment whenever yields per acre are above average.

Since the summer of 1929 there has been a precipitous drop in both the general price level of all commodities and in the buying power of consumers. The all-commodity index of wholesale prices during the summer of 1932 was 25 per cent below that prevailing in the summer of 1929, while the index of factory pay rolls in the United States was 62 per cent lower in 1932 than in 1929. The money income of people engaged in agriculture has experienced an even more drastic decline than that of factory workers.

During the past decade export markets afforded an outlet for an increasing proportion of the United States shipments of summer oranges. For the three years 1922-1924, around 10 per cent of our shipments during the six months of May to October were exported, whereas for the three years 1929-1931 about 15 per cent were exported. Conditions during the coming years, however, are likely to be less favorable to a further substantial increase in exports than the average of recent years. In June, 1931, Canada, which has been our most important export market, placed a duty of 75 cents a box on oranges imported from the United States. In September, 1931, the United Kingdom, which has been our second most important export market, went off the gold standard. In November, 1932, the United Kingdom placed a duty of 3 shillings 6 pence per 112 pounds (about 36 cents a box at the prevailing rate of exchange) on oranges from the United States. Since oranges imported into Canada and the United Kingdom from countries of the British Empire are on the free list, these countries now have a decided competitive advantage. South African and Australian oranges are marketed during our summer orange season (May to October), while those from Jamaica are marketed during the latter part of our summer season and the first part of our winter season.

Although United States shipments of summer oranges were only 14 per cent smaller in 1932 than in 1929, exports were 46 per cent smaller. Canada took only 1,151,000 boxes of oranges from the United States during the six months May to October, 1932, as against 1,880,000 boxes in 1929, while exports to the United Kingdom dropped from 1,180,000 boxes in 1929 to 369,000 boxes in 1932.

Production of oranges in the countries of the Southern Hemisphere, whose crops are marketed during the summer months, is increasing rapidly. Exports from the Union of South Africa increased from 455,000 boxes in 1924 to 1,750,000 boxes in 1932, while those from Brazil increased from 315,000 boxes in 1924 to 1,650,000 boxes in 1932. Production of oranges in Australia has increased from 1,693,000 boxes in 1924 to 2,445,000 boxes in 1931. The available information on acreage points to further increases in each of these three countries during the next few years.

ALMONDS

No further increase in almond production in California is in prospect. The nonbearing and young-bearing acreage is no larger than sufficient to offset the decline in the present full-bearing acreage. An increase in domestic supplies, therefore, is not expected to retard the recovery in almond prices which would arise out of an increase in the buying power of consumers in this country. It is probable, however, that importations into this country during the next five years will average above those of 1931-32, which were the smallest on record. In the event that the United States tariff rates on almonds were reduced, competition from foreign supplies would be further increased. Until there is a material increase in business activity and employment in this country, which is not likely to be brought about quickly, prices paid California producers of almonds are expected to remain at a relatively low level except in years of short crops.

The bearing acreage of almonds in California has remained practically stationary since 1928, but the total acreage has experienced a slight decline. In 1932 the total acreage amounted to 75,000 acres, 4 per cent smaller than in 1928. Approximately 94 per cent of the total acreage in 1932 was in bearing, while about 88 per cent was in full bearing. A considerable proportion of the young-bearing acreage is located in sections that are not well adapted to high yields per acre and therefore is not likely to add materially to the total state production. The nonbearing acreage is scarcely sufficient to offset the normal decline in production of the old trees.

The 1932 production of almonds in California amounted to 14,000 tons, 800 tons smaller than in 1931 but 500 tons larger than in 1930. Prior to 1928 there was a marked upward trend in almond production in this state but since 1928 there has been only a small rise. The available evidence indicates that the peak in the upward trend in production has now been reached. Average production for the next five years is not likely to exceed 14,000 tons even though the orchards receive good care. In any year when weather conditions are particularly favorable to high yields, production may of course be much larger; but in years of unfavorable weather conditions, it is likely to be smaller.

From 1921 to 1928 there was an upward trend in prices paid growers for almonds despite the increase in California production. The decrease in imports during this period was more than sufficient to offset the increase in domestic production and consequently total supplies of almonds declined. In 1921-22 and 1922-23 the total United States supply of almonds, in equivalent of unshelled almonds, amounted to 46,185 tons as against an average of 40,190 tons in 1927-28 and 1928-29, a decrease of 13 per cent. This reduction in total supply was mainly responsible for the increase in the California price. There was no increase in the per-capita demand for almonds in the United States between 1921-22 and 1928-29.

With the pronounced drop in business activity and employment in this country since 1929, the demand for almonds has been greatly reduced. This decline in demand has been reflected in both a decrease in consumption and a reduction in price. In 1931 the average price paid growers for the six major varieties was 8.1 cents a pound as against 17.5 cents a pound in 1928, a decrease of 53 per cent. The apparent consumption of almonds, in equivalent unshelled, in the United States during the fiscal year 1931-32 amounted to 26,700 tons as against 40,863 tons in 1928-29, a decrease of 35 per cent. In 1932 average prices paid growers were about the same as in 1931.

The United States imports of almonds in 1931-32 were the smallest on record, amounting to only 11,900 tons in equivalent of unshelled, as against 18,742 tons in 1930-31 and an average of 25,860 tons for the three years 1926-27 to 1928-29. The small imports in 1930-31 as compared with previous years are accounted for mainly by two factors, the increase in tariff rates and the low prices in this country. In 1931-32 a third factor contributed to the further reduction in imports; namely, the short almond crop in the Mediterranean Basin. In June, 1930, the United States import duties were increased from 4.75 cents a pound to 5.50 cents a pound on unshelled almonds and from 14.00 cents a pound

to 16.50 cents a pound on shelled almonds. With the sharp fall in wholesale prices of almonds during the past three years these import duties now constitute a large percentage of the selling price in this country and therefore are more effective in restricting competition of foreign supplies than formerly. This has been offset in part, however, by the decline in the currencies of some of the foreign almond-producing countries in terms of United States dollars. In November, 1932, the exchange rate on Spanish pesetas was 8.17 cents as against 12.23 cents in June, 1930, while the exchange rate on Italian liras was 5.11 cents in November, 1932, as against 5.24 cents in June, 1930.

The 1931 production of both shelled almonds and unshelled almonds in the Mediterranean Basin was short, amounting to only 51,400 tons and 14,685 tons respectively, as against an average of 64,255 tons of shelled almonds and 16,151 tons of unshelled almonds during the previous two years. The 1932 production of shelled almonds is now estimated at 58,900 tons and of unshelled almonds at 16,075 tons.

An increase in the price of almonds in this country is likely to result in larger importations than were received in 1931-32. The United States has long been an important market for almonds produced in the Mediterranean countries. There is as yet no evidence pointing toward a downward trend in production there. A reduction in import duties on almonds in the United States would, of course, result in increased competition from foreign supplies.

During the coming years almonds are likely to meet greater competition in the markets of this country from walnuts and pecans than has yet been experienced. The trends of domestic production of both walnuts and pecans are sharply upward. Less than one-half of the acreage devoted to each of these crops is now in full bearing.

WALNUTS

The potential production of walnuts from the acreage already planted is so large that heavy additional plantings at this time are very likely to be disastrous both to those who make the plantings and to the owners of the present orchards. The prospective increase in production during the coming years, if realized, will effectively prevent the return of the comparatively high walnut prices of the past decade even though a material increase in business activity and employment in this country should occur. Production of walnuts in foreign countries is expected to continue to be heavy. Any reduction in the United States import duty on walnuts will adversely affect the prices received by California producers.

The 1932 crop of walnuts in California amounted to 44,000 tons, which was 52 per cent larger than the 1931 crop and 38 per cent larger than the average crop produced during the five years 1926-1930. The total acreage of walnuts in California in 1932, exclusive of 1932 plantings, amounted to 134,800 acres of which 107,200 acres or 80 per cent were of bearing age and 27,600 acres or 20 per cent were of nonbearing age. Over 25 per cent of the present bearing acreage has come into bearing since 1927 and, therefore, is not yet in full bearing. Twelve to fourteen years hence the present planted acreage, allowing for no further plantings or removals, will normally produce a crop of 67,000 tons annually, which is 52 per cent larger than the 1932 crop and 99 per cent larger than the five-year 1928-1932 average production.

In the winter of 1931-32 about 1,700 acres of walnuts in southern California were removed. The recent drop in the prices of oranges, however, has reduced the incentive to uproot walnut trees for the purpose of planting oranges, and consequently it is not likely that annual removals of walnuts in each of the next two or three years will be as large as in 1931-32.

Walnut production in Oregon, although still small, is increasing rapidly. During the past two years production in that state averaged 2,500 tons as against an average of only 890 tons during the previous five years. The total acreage of walnuts in that state in 1930 amounted to 24,600 acres of which only 9,300 acres or 38 per cent were in bearing. Only 15 per cent of the total acreage in that year was in full bearing.

In order to dispose of the prospective increase in production of walnuts in California and Oregon, it is evident that demand must be increased or prices reduced. The experience of the past decade offers little encouragement that the demand can be increased as fast as the probable increase in production. This, together with the probability that the general price level will, in the absence of a considerable increase in the volume of money and credit in circulation, continue below the 1921-1929 average, points toward a level of walnut prices during the coming years considerably below the level of the past decade.

It is of considerable significance that during the prosperous years of 1922 to 1929 there was no upward trend in the United States per-capita consumption of all unshelled walnuts. While there was a substantial increase in the consumption of California unshelled walnuts, this was fully offset by a decrease in the consumption of imported ones. Since importations of unshelled walnuts are now small, averaging only 2,375 tons during the past two seasons, a further substantial increase in the

consumption of domestic-grown walnuts must come as a result of increased per-capita consumption of unshelled walnuts rather than by substitution of domestic-grown for foreign-grown walnuts.

The per-capita consumption of unshelled walnuts in the United States from 1922-23 to 1929-30 averaged 0.61 pounds; the average price paid local associations for merchantable unshelled walnuts was 21.5 cents a pound. As a result of the decrease in the buying power of consumers during the past three years, the demand for unshelled walnuts has been sharply reduced. In 1931-32 the per-capita consumption amounted to only 0.38 pounds while the price paid local associations was 15.2 cents a pound. Because of the larger domestic production in 1932 than in 1931, the price to local associations will be lower, and therefore the per-capita consumption this season will be considerably higher than last season. No material improvement in the demand for California walnuts from the present low level can be expected until the buying power of consumers is substantially increased. Over a period of years an increase in consumer buying power is in prospect, but it is not likely to be brought about quickly. By the time business activity and employment in this country return to normal the trend of production of walnuts in both California and Oregon may be materially higher than at present.

The main source of income from walnut production in California has always been from the sale of unshelled walnuts and it is from the sale of these that most of the income from future production must be derived. There is no probability that the prices received for shelled walnuts during the coming years will be sufficiently high to cover the costs of even the most efficient grower. From 1922-23 to 1930-31 when the output of edible kernels in California averaged only 1,400 tons, the average price returned to local associations for the walnuts that were shelled was 7.8 cents a pound. In 1931-32 the price fell to 4.6 cents a pound and indications are that it will be even lower this present season. While the percentage of kernels obtained from first-grade walnuts is usually higher than that obtained from culls, there is little probability that shelling will provide an outlet for any considerable quantity of first-grade walnuts at a price to growers for the whole nuts of over 4 or 5 cents a pound, even after business conditions in this country return to normal.

The large buyers of bulk shelled walnuts prefer medium-sized half kernels which are light in color. A relatively high percentage of the California kernels is large in size and amber to brown in color. Consequently, California shelled walnuts are at a disadvantage in the bulk markets (and most of the walnuts are sold in bulk to bakers and con-

fectioners) as compared with the better grades of imported shelled walnuts which are medium in size and light in color. The most desirable pack of imported shelled walnuts, known as Bordeaux Halves, runs from 430 to 480 halves per pound while California halves average about 250 per pound. Consequently, the cost to manufacturers a half-kernel would be nearly twice as much for California halves as for Bordeaux Halves if the price a pound were the same for each. It is for this reason, as well as because of the darker color, that California shelled walnuts sell at a lower price a pound than imported shelled walnuts of comparable quality.

Competition from foreign shelled walnuts in our domestic markets is likely to remain keen for many years. The United States import duty on unshelled walnuts is now relatively high as compared with former periods, having been raised from 12 cents a pound to 15 cents a pound in June, 1930. A reduction in the present tariff rate would intensify the present keen competition. Because of the cheap labor the cost of shelling walnuts is much less in foreign countries than in California. Most of United States imports of walnuts, which have averaged 7,788 tons annually during the past five years, come from France, Italy, and China. There is no evidence pointing toward any material decrease in production in these countries.

With the exception of 1927 when the California crop was unusually large, shelling has been confined to cull walnuts. During the coming years shelling of the lower-grade merchantable nuts may have to be resorted to whenever the crop is unusually large in order to prevent prices of unshelled walnuts from going to disastrously low levels. While the shelling of a portion of the merchantable crop may be very helpful in adjusting the supply of unshelled walnuts to the market demands, it cannot be expected to maintain returns from walnut production at a level profitable to the average grower when the proportion of the crop shelled is large. Under such conditions growers, although they might receive a reasonable price a pound for the unshelled portion of the crop, would receive almost nothing for the shelled portion, since prices would tend to fall to a point closely approximating the cost of shelling if the output of shelled walnuts were greatly increased.

The large prospective increase in the production of pecans in this country may add considerably to the competition that California walnuts meet in the consuming markets. In 1930 about 65 per cent of the pecan trees of improved varieties were less than eleven years of age, while 40 per cent were less than six years of age. This year prices of pecans have been cheap as compared with prices of walnuts, and conse-

quently there has been a tendency to substitute the low-priced pecans for the higher-priced walnuts, particularly in the manufacturing trade.

From the facts relating to prospective supply and demand conditions given above, it does not appear that the walnut industry can avoid serious consequences during the coming years unless new plantings are entirely discontinued, high-cost acreage removed, present import duties continued, and a strong marketing organization maintained. In order for a marketing organization to do most effectively those things which may reasonably be expected of it such as national advertising, well regulated distribution, maintenance of trade confidence, and control of temporary surpluses, it must have the support of at least 90 per cent of the walnut growers.

OLIVES

The peak in olive production in California has probably been reached. Production during the coming years is likely to average below the large crop of 1932. An increase in supplies, therefore, is not expected to retard the improvement in prices of olives which would arise out of an increase in the buying power of consumers in this country. Prior to the recent decline in business activity and employment there was a substantial rise in the trend of demand for canned ripe olives. It is probable that the upward trend in demand will be resumed as the buying power of consumers returns to normal. Over a period of years these factors are expected to result in a material increase in the prices of olives from the low level of 1932, but it is not likely to occur quickly. The difficulties in prospect during the next few years could be partially alleviated by an industry program designed to limit the pack of canned ripe olives to the effective demand, stabilize prices to the trade, and improve the quality of the pack.

Since 1928 there has been a decrease in the acreage of olives in California. In 1932 the total acreage amounted to 26,700 acres as against 33,800 acres in 1928, a decrease of 21 per cent. Approximately 94 per cent of the total acreage in 1932 was in bearing while only 6 per cent was nonbearing. The small nonbearing acreage in 1932, amounting to only 1,470 acres, is not sufficient for normal replacements. In 1928 about 4,750 acres were nonbearing, constituting 14 per cent of the total acreage in that year, yet between 1928 and 1932 there was a decrease of 3,815 acres or 13 per cent in the bearing acreage.

The 1932 crop of olives was the largest on record, amounting to 22,000 tons, as against 15,000 tons in 1931 and an average of 18,020 tons during

the five years 1926-1930. Weather conditions in 1932 were unusually favorable to high yields per acre. The condition of the crop was 68 per cent of normal as against an average of 58 per cent during the previous ten years. Production during the coming years is likely to average below that of 1932. Some decrease in bearing acreage is in prospect and the very low returns received in 1932 are likely to result in reduced yields per acre due to neglect. It is not to be expected, however, that the decrease in production during the next few years will be sufficient to cause a material improvement in the olive situation. Unless there is a substantial increase in the buying power of consumers in this country, olive production is likely to remain excessive for some years.

Between 1926 and 1930 about 58 per cent of the commercial production of olives in California was canned, 36 per cent pressed for oil, and 6 per cent shipped fresh and dried. In 1931, however, the proportions canned and pressed for oil were reduced while the proportion shipped fresh and dried was increased.

The output of olive oil in California in 1931-32, amounting to only 135,000 gallons, was the smallest in many years. Prices paid growers for oil olives in 1932-33 averaged about \$17.50 a ton as against an average of \$34.00 a ton during the nine years 1921-22 to 1929-30. Even at prices twice as high as those received in 1932-33, returns from olives pressed for oil constituted a considerable drag on the olive industry of the state and were felt particularly by those growers who had a large proportion of their crop go into oil. There are no indications that prices of oil olives will be higher than the average of the past decade even after business activity and employment in this country return to normal, and they may be lower. Approximately 98 per cent of the edible olive oil used in the United States is imported, mainly from Italy, Spain, and France. During the past decade there was a substantial increase in world production of olive oil.

The pronounced decline in the buying power of consumers since 1929 has affected the demand for canned ripe olives, which are essentially a luxury product, more than it has the demand for many of our fruits. As compared with the three years 1926-27 to 1928-29, shipments of canned ripe olives in 1931-32 were 18 per cent smaller while the average prices paid growers were 55 per cent lower. Prices paid growers for the 1932 crop were 28 per cent lower than those paid for the 1931 crop, and present indications are that shipments of canned ripe olives in 1932-33 will be from 20 to 25 per cent below those of 1931-32.

During the past decade there was a substantial increase in the trend of demand for canned ripe olives in this country. Shipments increased

from an average of 304,000 cases in 1920-21 to 1922-23 to an average of 638,000 cases in 1926-27 to 1928-29, which is an average increase of 55,000 cases a year. This upward trend in shipments, however, did not result in a downward trend in the prices of canned ripe olives, which is evidence that the trend of demand increased at the rate of about 55,000 cases a year during that period. When business activity and employment in this country again return to normal, it may be expected that much of the loss in the demand for canned ripe olives during the past three years will be regained and that in addition a part of the former upward trend in demand will be resumed. Improvement in the prices of olives arising out of these factors is not likely to be retarded by increasing supplies since the peak of production of olives in this state has probably been reached.

BEEF CATTLE

Prices of beef cattle in 1933 are likely to average as low as in 1932, or lower. Slaughter supplies of both cattle and calves are expected to be somewhat larger in 1933 than in 1932, and no material improvement in demand for meats over that prevailing in 1932 is now in prospect. From the longer-time point of view, the improvement in prices of beef cattle arising out of a gradual increase in the buying power of consumers is likely to be retarded by increasing supplies. The upswing in cycle of beef-cattle numbers is still under way.

Cattle numbers in the United States increased again during 1932, and on January 1, 1933, were probably about 64,500,000 head, or about 2,000,000 more than there were a year earlier. Because of the small slaughter of cows and calves in 1932, it is probable that the increase was mostly in these classes, with little increase in steers. This brings the total of beef and dairy cows combined to the largest number on record, and the calf crop in 1933 will be the largest ever raised in this country.

Although cattle numbers have increased steadily since 1928, this increase has not yet been reflected in market supplies or in inspected slaughter. Slaughter of cattle under federal inspection in 1932 was the smallest in the last five years and calf slaughter was the second smallest. It is probable, however, that farm and retail slaughter of cattle was somewhat larger, and that of calves considerably larger, than in 1931; hence total slaughter of all kinds may have been about the same in the two years. On the whole it seems probable that the slaughter of both cattle and calves during 1933 will be larger than in 1932. Whether this slaughter will greatly exceed that of 1932 depends upon the policy followed by producers in disposing of their old cows and in selling calves

for slaughter. Undoubtedly, the very low prices of cows, especially of the lower grades, have tended to restrict the marketing of these during the last two years. In many cases, such cows will bring little more than transportation and marketing costs if shipped any considerable distance for sale. Furthermore, the relations between prices of feed and prices of calves, steers, and dairy products during 1932 may have tended to encourage the retention of cows for production purposes. If these conditions continue, large numbers of old cows may be kept on farms and ranches to raise calves, as long as they continue to reproduce.

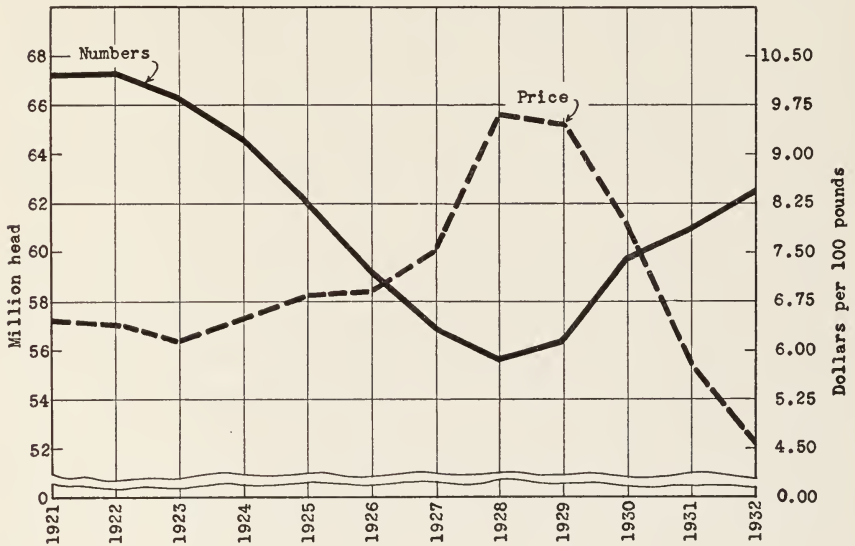


Fig. 7. Number of cattle on farms in the United States, and prices of beef cattle to California producers.

Steer slaughter in 1932 was smaller than in 1931, but it is very probable that such slaughter in 1933 will be larger than in 1932 and the largest for any year since 1928. The estimated number of cattle in the Corn Belt states on feed for market as of January 1, 1933, was 5 per cent larger than the relatively small number on feed in those states a year earlier, but in the 11 far western states some decrease in the number on feed was indicated. Judging from the weights and the number of cattle on feed and the intended months of marketing as reported by a large number of feeders, it seems probable that the supply of fed cattle will be somewhat smaller during the first quarter of 1933 than a year earlier, but larger during the second quarter. With abundant supplies and low prices of feed grains in all sections, increased feeding during all of 1933

seems probable. Market supplies of fed cattle during the last half of the year, therefore, probably will be larger than during the corresponding period of 1932.

Supplies of cattle and beef in foreign countries available for export to the United States during 1933 are expected to be larger than during 1932, but the actual imports are likely to continue to be relatively small. Cattle imports into the United States during 1932 totaled 104,000 head as compared with 93,000 head in 1931, and 232,000 head in 1930. Canned beef inspected by the Bureau of Animal Industry for entry into the United States during 1932 totaled 21,854,000 pounds, as compared with 18,121,000 pounds in 1931 and 48,533,000 pounds in 1930. Practically all of these imports came from South American countries. Under existing regulations relating to imports of meat, this is the only type of beef admitted from those countries. Imports of fresh and frozen beef into the United States in 1932 totaled only 882,000 pounds as compared with 1,857,000 pounds in 1931. Receipts from New Zealand were reduced sharply.

The downward trend in cattle prices which got under way in early 1930 continued during 1932, and at the end of the year, prices of all kinds of slaughter cattle were at the lowest levels reached in more than twenty-five years. Prices of the better grades of slaughter cattle declined sharply from early January to mid-May. Following the low point in mid-May, they advanced until mid-September as the result of an extreme scarcity of fed cattle and the usual improvement in the demand for the better grades of beef during that season of the year. The price decline on these grades during the last three months of the year was much greater than usual, amounting to about \$3.00 per 100 pounds. The price of choice-grade steers at Chicago during December, 1932, averaged only \$6.66 per 100 pounds as compared with \$11.14 in December, 1931. Prices to producers in California fell from \$5.77 per 100 pounds in 1931 to \$4.53 in 1932, a decrease of almost 22 per cent. Not only has beef declined in value, but the values of hides and other by-products have suffered an even greater decline.

Consumer demand for both beef and veal continued to decline during 1932. Per-capita consumption of federally inspected beef and veal during the first nine months of 1932 was 2 per cent less than for the corresponding period of 1931. Incidentally the amount consumed was the smallest on record for a similar period. Despite this latter fact the retail prices of beef in the United States declined from 16 to 21 per cent from 1931 to 1932. The greater price declines were in the cheaper cuts. The prospect of a continued low level of consumer incomes during the first

half of 1933, the tendency for changes in the demand for beef to occur somewhat later than changes in business activity, and the prospective large supplies of pork, all indicate that little if any improvement in this demand during the year can be expected.

Cattle production in this country has moved through three complete cycles of increasing and decreasing numbers since 1880. The upswing of the second cycle was eight years in length and that of the third extended over a period of six years. The upswing of the present cycle which had its beginning in 1928, has been under way for five years but the increase in total cattle numbers has not yet been reflected in an expansion in cattle slaughter. If changes in slaughter had followed changes in numbers, as in corresponding periods in previous production cycles, slaughter would have begun to increase in 1931 and would have tended to restrict the increases in numbers that took place in 1931 and 1932. Lacking this restraining factor, however, numbers at the beginning of 1933 were about 8,000,000 head larger than in January, 1928.

The potential yearly production of cattle and calves, based upon total cattle, and upon cows of reproductive age, January 1, 1933, is ample for supplying a relatively large per-capita quantity of beef and veal and probably excessive for remunerative prices. A further expansion in cattle numbers is likely to result in a situation wherein any general improvement in commodity prices during the next few years, resulting from improved business conditions, will not be reflected in higher cattle prices because of increased supplies of cattle and calves for slaughter.

Despite the sharp decline in cattle prices, there is little incentive at present for reducing cattle production. The decline in feed prices and in prices of other commodities, the production of which can be substituted for cattle production, has been even greater. On the other hand, there appears to be little in the immediate demand situation to stimulate further expansion. Consumer demand for beef is now greatly restricted as a result of the severe depression. This demand will strengthen when the eventual improvement in business increases consumer purchasing power. Increased demand as a result of population growth will be relatively small and very gradual and will probably tend to slow up in the future because the increase in population in the past decade has been at a declining rate.

DAIRY

Continued heavy production of dairy products in the United States is in prospect during 1933. The number of milk cows in the United States is now larger than a year ago. The aggregate feed-grain, hay, and feed-stuff supplies for 1932-33 are sufficiently large to maintain milk production at the prevailing level and to permit the present rate of expansion of dairy herds. The demand for dairy products in 1933 is not likely to average any better than in 1932. These considerations point to prices of dairy products in 1933 as low as in 1932, or lower.

The number of milk cows and heifers two years old or older, on farms, increased from 22,129,000 head on January 1, 1928, to 24,379,000 on January 1, 1932, an increase of 10 per cent during the four years. During 1932 there was a further increase of about 2 per cent. Only about the usual percentage of heifers was added to the herds but an unusually small proportion of the cows was culled out, culling during 1932 being reduced from the usual average of about 16 per cent of the cows to about 13 per cent. Under ordinary conditions about 5 per cent of the milk cows now on the farms would have been culled out during the last three years, but culling has been retarded in all states by the cheapness of grain, by the ample supply of labor on the farms, and by the low price of cows.

In response to the high price of milk cows prior to 1930, the number of yearling heifers being kept for milk cows increased from 4,045,000 in January, 1926, to 4,777,000 in January, 1931. The number then declined to 4,665,000 by January, 1932. The present number is probably about the same as on January 1, 1932, or slightly more than enough to cover the normal percentage of culling and death losses. The price of milk cows is so low that most farmers appear to be raising only about the number of heifers they would ordinarily need to maintain the present number of milk cows on their farms. The numbers of cows being slaughtered and the receipts of cows at stockyards indicate that the rate of culling is still abnormally low.

Total production of milk in the United States during 1932 was apparently about the same as during 1931. In comparison with 1931, commercial deliveries of milk and cream have been reduced by the increase in the quantity of milk used on the farms and by an increase in the quantity of butter made on the farms. The estimated consumption of creamery butter, cheese, and condensed and evaporated milk during 1932, converted to a milk-equivalent basis, was about 3 per cent less

than during 1931. The consumption of creamery butter declined 2 per cent, cheese 5 per cent, and condensed milk 26 per cent, while the consumption of evaporated milk increased 4 per cent.

The storage situation in regard to dairy products as a whole was generally strong throughout 1932 as compared with 1931. At the beginning of the new storing season on May 1, 1932, total stocks of manufactured dairy products, on a milk-equivalent basis, were 26 per cent lower than on May 1, 1931. The slowing up of consumption during the summer, and some increase in production during August, resulted in cold-storage

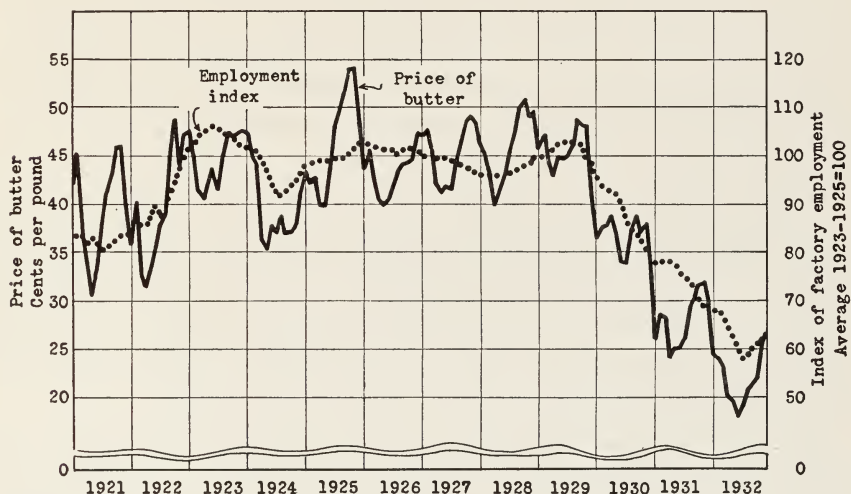


Fig. 8. Prices of butter at San Francisco, and Federal Reserve Board index of factory employment in the United States.

stocks of butter and manufacturers' stocks of evaporated milk reaching totals by September 1, 1932, in excess of those of a year earlier. By December 1, however, stocks of manufactured dairy products, in terms of milk equivalent, were approximately 10 per cent below those of December 1, 1931, primarily on account of unusually heavy movements into channels of apparent consumption during November, accompanied by heavy decreases in current production of all products except evaporated milk. Stocks of creamery butter on January 1, 1933, reached a new low record for that date, totaling 22,044,000 pounds as compared with 26,643,000 pounds on January 1, 1932, and a January 1 five-year average of 52,410,000 pounds. Stocks of American cheese on January 1, 1933, totaled 57,750,000 pounds as compared with 60,804,000 pounds on January 1, 1932, and a five-year average of 63,685,000 pounds. Stocks of canned milk on January 1 were 119,596,000 pounds as compared with

152,447,000 pounds on January 1, 1932. Total stocks on January 1, 1933, of butter, cheese, and canned milk, combined on a milk-equivalent basis, were 16 per cent lower than they were a year earlier.

The decline in wholesale prices of dairy products, which started in the latter part of 1929, continued in 1932. A low point was reached in June with some recovery during the last half of the year. The general decline in dairy-product prices during the three-year period was influenced by the decline in the general price level and the decrease in the buying power of consumers, rather than by any marked change in the output of dairy products. Farm prices of dairy products did not decline so much, however, during 1932 as did prices of most farm products. Farm prices of all products in 1932 averaged 29 per cent lower than in 1931, while farm prices of dairy products averaged 25 per cent less. Prices received by farmers for feed grains in 1932 were 37 per cent less than in 1931.

Retail prices as well as wholesale prices declined in 1932. Average percentage declines in the retail prices of certain dairy products from 1931 to 1932 were market milk 11 per cent, evaporated milk 12, butter 23, and cheese 18 per cent. The tendency for butter to decline relatively more than other dairy products continued during 1932. If and when general business conditions improve, the increase in butter prices will probably be more rapid than those of other dairy products.

The volume of foreign trade of the United States in dairy products in terms of their total milk equivalent continued to decline in 1932. During 11 months imports amounted to approximately 545,000,000 pounds (milk equivalent) as against 626,000,000 pounds in 11 months of 1931, and exports dropped to 171,000,000 pounds from 271,000,000 pounds. The excess of imports over exports will figure somewhat greater for 1932 than for 1931 representing the first increase since 1927. Domestic prices of butter were paralleled by outside prices rather more closely than usual during 1932, the domestic butter market remaining free from any serious disturbance from foreign competition in the form either of imports or of an exportable surplus.

Foreign supplies of butter are likely to be large in 1933 but no large imports into the United States are to be expected. In both New Zealand and Australia, dairy production continues to increase steadily and is now at the peak of a season of record output in each country. Australian gradings from the beginning of the seasonal year, August 1 to December 10, have increased over the corresponding period of the previous record season by 36 per cent. In New Zealand, over the same period, butter production has increased 20 per cent.

The total output of the American dairy industry continues to be approximately in balance with the domestic consumption. Expansion beyond this would result in disastrously low prices because of the non-effectiveness of tariff protection when production outruns domestic demand. With the domestic demand curtailed by the lowered urban purchasing power, any material expansion will be checked by considerable reduction of prices, until unemployment is reduced and consumer purchasing power improved. During the last five years there has been a substantial increase in the number of cows, induced partly by the attempt to supplement income from other sources, partly by the cheapness of grains, and partly by the slackening of sale of cows because of the extremely low prices paid for them. Total milk production in 1932 was no greater than in 1931 but the increase in numbers of cows still gives a potential productive capacity above that of recent years in spite of the fact that some of these cows would have been culled in a normal year. It is not probable, however, that such expansion will be realized to any alarming degree under present price conditions. On the other hand, there seems no reason to believe that the dairy industry has reached a turning point and is about to contract. Production is likely to be sustained or even slightly increased in 1933 over that of 1932. The culling out of low producers and the consequent raising of the quality of cows seems to await the stimulus of better prices. But a more liberal feeding of dairy cows is entirely possible in view of the supply and price of feeds. The trend of all cattle numbers is now upward and may be expected to continue so for several years. The number of milk cows is likely to move upward with the upward trend in the supply of all cattle.

HOGS

Slaughter of hogs in the United States under federal inspection during the remainder of the present marketing year, which ends September 30, 1933, is expected to be somewhat smaller than in the corresponding period of 1932, with all the reduction occurring during the four months, January to April. The decrease in numbers will be offset in part by an increase in average weights. Little increase in the 1933 spring pig crop in the United States is indicated, and a substantial reduction in European hog production seems probable. The domestic demand for hog products during 1933 probably will not be improved materially, but the foreign demand for American products may be strengthened somewhat.

The number of hogs on farms January 1, 1933, was probably but little different from that on January 1, 1932, although the combined

spring and fall pig crops of 1932 were smaller than in 1931. The number of pigs saved in the spring of 1932 was estimated at about 49,600,000 head, and in the fall at about 29,100,000 head, making a total of about 78,700,000. The number saved in the spring of 1931 was estimated at 53,300,000, in the fall at 27,900,000, and the total for the year at 81,200,000. The 1932 spring pig crop was smaller than the average spring crop for the five years, 1927-1931, but the 1932 fall pig crop was much above the average fall crop for those years. As a result of this distribution, the proportion of the 1932-33 crop-year slaughter in the period October 1, 1932, to April 1, 1933, is expected to be smaller than usual.

Total inspected slaughter in the 1931-32 marketing year was 46,655,000 head and present indications are that slaughter in the 1932-33 marketing year will be between 43,000,000 and 44,000,000 head, or not greatly different from that in 1930-31. Inspected slaughter during the first three months of the 1932-33 year was 11,967,000 head, a decrease of 1,400,000 from the slaughter in this period in the 1931-32 year. The decrease in slaughter during the remainder of the 1932-33 year (January 1 to September 30, 1933) is indicated as from 1,250,000 to 2,250,000 head. All of the reduction is expected to be in the total for the four months, January to April. Because of the large supplies of corn and other feeds, and a hog-corn price ratio encouraging for feeding, the weights of hogs slaughtered in the 1932-33 year will be heavier than in the preceding year, and probably above average, and will tend to offset in part the decrease in the number slaughtered.

Present indications are that the number of sows to farrow in the spring season of 1933 will not be much larger than those in 1932. The estimated number to farrow in the spring of 1933, based on breeding intentions shown by the December, 1932, pig survey, was about 2 per cent larger. In other periods similar to the present, in which hog prices were low and corn prices were relatively lower than hog prices, which resulted in the high hog-corn price ratios, sharp increases in hog production have occurred. Hence, the breeding intentions reported seem low.

The California 1932 fall pig crop was but slightly smaller than that of 1931, while reports from producers indicate a 1933 spring pig crop of about the same size as that of the previous year. The 1932 fall pig crop in the area comprising the eleven western states was about 11 per cent smaller than that of 1931. Expressed breeding intentions indicate that the 1933 spring pig crop will be about 1 per cent smaller than the 1932 spring crop, which was in turn 10 per cent less than the 1931 spring crop. Western hog production continues to decline.

Storage stocks of pork at the beginning of the storage season of the current marketing year were about average, but by January 1, 1933, such stocks, amounting to 494,000,000 pounds, were 12 per cent smaller than those of a year earlier and the smallest for that date since 1926. Lard stocks were relatively small throughout 1932, and storage holdings on January 1, 1933, amounting to 40,000,000 pounds, were 21 per cent smaller than those of a year earlier and the smallest on record for that date. The total reduction of pork and lard stocks from those of January 1, 1932, is equivalent to about 500,000 hogs. Because of the rather unfavorable results of their storage operations during the past three years, packers have adopted a conservative attitude toward accumulating storage stocks this winter. This attitude has been influenced also by the expectation that supplies of hogs for slaughter next summer will be relatively large. The weakness of the hog market this winter as compared with that of a year earlier, notwithstanding the reduction in slaughter supplies, is due in part to this reduced storage demand.

The downward trend in exports of United States hog products, which has been under way for several years, continued during the 1931-32 marketing year. Pork exports during the year were 30 per cent smaller than in 1930-31, but lard exports were only 1 per cent smaller. This reduction in exports was due mainly to larger slaughter supplies of hogs in foreign countries and the adoption of more stringent restrictions to international trade in the principal importing countries.

The foreign demand for United States pork during 1933 is expected to be somewhat stronger than that of a year earlier. Hog numbers in the principal foreign producing countries have been declining since the summer of 1931 and slaughter supplies in those countries during the current year probably will be considerably smaller than in 1932. By a system of voluntary agreements, imports of hams and bacon into Great Britain during December, 1932, and January, 1933, are being limited to a level 20 per cent under that of the corresponding period in 1931-32. The allotment to the United States for the period, however, permits a 12 per cent increase in exports of hams and bacon to Great Britain over those of a year earlier. Present indications are that permanent restrictions somewhat similar to those now in force will be adopted.

Hog prices in the United States declined almost steadily throughout 1932, reaching the lowest levels in more than fifty years in late December. Although slaughter supplies in the 1931-32 marketing year were somewhat larger than in the preceding year, the continued reduction in both domestic and foreign demand was largely responsible for the decline in hog prices. From early August, 1931, to mid-February, 1932,

prices followed a sharp downward trend. After a seasonal rise of brief duration in late February and the first half of March, the decline in prices was resumed and was not checked until the last week in May, when the weekly average at Chicago was \$3.19 per 100 pounds, the lowest in more than thirty-five years. A sharp advance in prices occurred during June and early July, largely as a result of a very marked temporary reduction in slaughter supplies. The high point of the advance was reached during the week ending July 9, when hog prices at Chicago averaged \$4.89, which was the highest weekly average since mid-November, 1931. Except for a temporary rise in early November, the downward course in prices was practically unbroken from mid-July until the last week in 1932 when the weekly average price at Chicago of \$2.95 per 100 pounds was the lowest since 1878. As compared with pre-war (1910-1914) farm prices, hog prices are relatively lower than prices of other meat animals, approximately as low as prices of feed grains, and much below the average price of all farm products.

The decline in consumer demand for pork products which began early in 1930 continued through 1932. During the marketing year which ended September 30, 1932, per-capita consumption of pork and lard from federally inspected slaughter, amounting to 58.4 pounds, was over 4 per cent larger than during 1930-31, but retail prices of pork products in the United States averaged approximately 30 per cent lower. Domestic demand for pork during 1933 will depend in a large measure upon developments in the business situation. There will probably be a greater local and farm slaughter which will tend to reduce the demand for pork from commercial slaughter.

POULTRY AND EGGS

Production of eggs in the United States in 1933 is expected to be somewhat larger than in 1932. The number of layers in farm flocks on January 1, 1933, was slightly larger than a year earlier, and it is probable that the number of chicks hatched this spring will be increased. Consumer demand for poultry products will remain low until there is a material improvement in business activity and employment in this country. The storage of eggs this spring will probably be above that of last spring which, together with the prospective increase in the quantity of eggs used for hatching purposes, is expected to reduce the supplies of eggs available for consumption during the spring months of 1933 and increase the supplies available for consumption during the fall and winter months.

The reported number of hens and pullets of laying age in farm flocks was between 2 and 3 per cent more on January 1 this year than last, but about 3 per cent less than the January number in 1931, or that of the five-year average 1927-1931. Notwithstanding the extremely low price for eggs in the early part of 1932, the abundance and cheapness of feed coupled with the more-than-seasonal rise in prices for eggs apparently encouraged farmers to retain slightly larger numbers of layers. This tendency was furthered by the low prices paid for poultry. The production of chicks by commercial hatcheries from January to July, 1932,

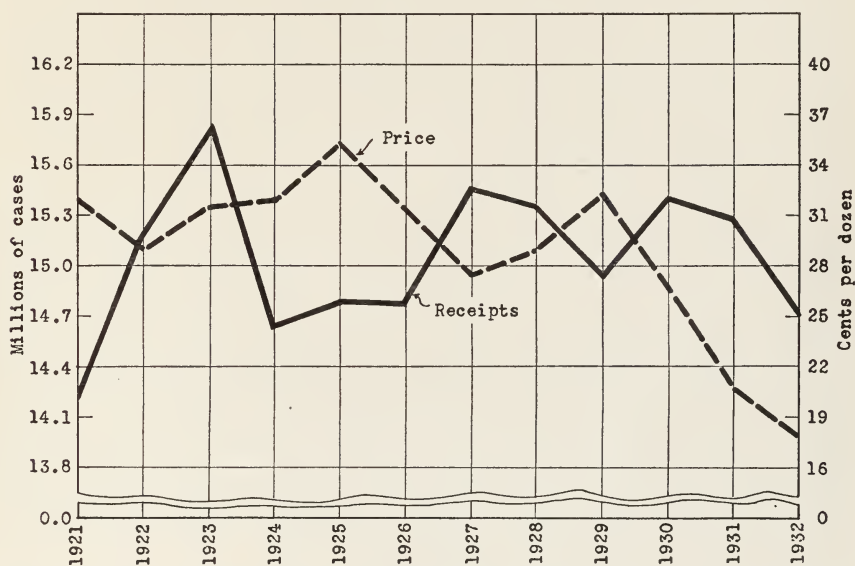


Fig. 9. Egg receipts of four markets in the United States, and prices received by California producers.

inclusive, was slightly greater than for the same period in 1931. Commercial hatchings for the 1932 season decreased sharply in the Mountain and Pacific Coast states, this decrease amounting to about 25 per cent for the Mountain states and 15 per cent for the Pacific Coast states. Hatchings increased slightly in the Middle West and the South, and to a somewhat greater extent in the Atlantic Coast states.

The situation in the Pacific Coast states where commercial production is dominant shows a different picture with reference to numbers of chickens than the remainder of the United States. Although farm flocks produce an insignificant amount of the eggs in the western states, it is noteworthy that there has been a decrease in the number of layers in these flocks. Commercial production, on account of small hatchings, has

decreased even more. The five leading egg-shipping states of the West sent out 24 per cent fewer cars of eggs in 1932 than in the peak year of shipments, 1921. (The peak year for the three Pacific Coast states of California, Oregon, and Washington was 1928.) California shipments of eggs were 26 per cent less in 1932 than in 1931 and over 40 per cent less than those in 1928.

Although prices of eggs were at record low levels in the spring of 1932, the subsequent improvement in prices and their well-maintained levels during the fall and early winter in the face of generally unfavorable farm prices, will tend to increase further the number of chickens hatched this year. The very sharp decline in prices of eggs in January was less encouraging; and low prices, if continued, may tend to limit the expected increase in numbers of chickens to be raised. However, the record low prices during the early months of 1932 failed to prevent a gain in numbers raised last year.

Farm prices of eggs in 1932, although the lowest in the thirty-three-year record, were not so low as those of most other agricultural commodities when compared with prices before the World War. Likewise, when compared with the average fall prices of more recent years, egg prices showed relatively less decline. The average price of eggs, for the three months of October, November, and December, was 39 per cent below their average for the same three months during the five years, 1925 to 1929. On the same basis the prices of dairy products declined 52 per cent, prices of meat animals 61 per cent, and grain prices 72 per cent. The greater declines in prices of grains, as poultry feeds, were especially favorable to egg production.

Farm prices of eggs in the United States rose from 10.6 cents a dozen in June to 28.1 cents in December, an advance of 17.5 cents or 165 per cent against a normal advance of 95 per cent. At California points the advance was far less. Quotations in San Francisco rose from 15.5 cents in June to 35.5 cents in November, an increase of 130 per cent. In Los Angeles the seasonal advance was somewhat less, being from 16.0 cents to 33.0 cents, or 106 per cent.

The relation between feed and egg prices on commercial California poultry farms during 1932 was slightly more favorable than in 1931, although probably not relatively as favorable as in the Middle West. The egg-feed price ratio for 1932 in California was identical with the average ratio from 1910 to 1932, inclusive.

Receipts of eggs at four markets were 13,050,000 cases in 1932 as compared with 15,281,000 cases for 1931 and an average of 15,293,000 cases for the five years, 1927-1931. Throughout the first nine months of the

year receipts were consistently below those of the previous year, but with an improved market price situation, receipts in October and November exceeded those of the same months in 1931. Total egg receipts for the year, as compared with those of the previous year, were smaller from all geographic divisions except the South Atlantic and the South Central states, from which marketings are relatively unimportant. The greatest decrease in receipts was from the Mountain states where the decline was over 30 per cent while receipts from the Pacific Coast states declined 19 per cent and from the Middle Atlantic states 18 per cent.

Stocks of shell eggs placed in cold storage during the spring and early summer of 1932 were unusually small. On August 1, they amounted to only 6,431,000 cases as compared with 9,504,000 cases for the same date in 1931, a reduction of about 32 per cent. They were 37 per cent below the August 1 cold storage holdings of 10,181,000 cases for the years 1927 to 1931. From August 1, 1932, to January 1, 1933, the stocks of shell eggs in cold storage were reduced 6,272,000 cases as compared with 8,029,000 cases a year previous, but remaining stocks of 159,000 cases on January 1, 1933, were the smallest on record for that date since these reports were first gathered in 1915.

Frozen egg stocks in storage on August 1, 1932, were equivalent to 2,832,000 cases of shell eggs, a reduction of about 13 per cent from the August 1 holdings of 1931 and an increase of 2 per cent above the average August 1 stock for the five years 1927-1931. The reduction in frozen egg stocks between August 1, 1932, and January 1, 1933, was equivalent to 1,251,000 cases as compared with 1,014,000 cases in 1931 and a five-year average of 951,000 cases, indicating a heavier use of frozen eggs in 1932. January 1 stocks of combined shell and frozen eggs were equivalent to 1,740,000 cases of shell eggs, as compared with 3,738,000 cases on January 1, 1932, and a five-year January 1 average of 3,098,000 cases.

The consumption of dressed poultry in four markets during 1932 was not greatly different from the volume consumed at those points during 1931, the apparent trade output for these cities being about 3 per cent less in 1932. Prices were much lower than in 1931 or in any of the last several years; they were particularly low during the latter part of the year. The large turkey crop produced in 1932 and the very low prices that prevailed during November and December resulted in exceptionally heavy consumption of turkeys during these months, and tended to offset to a certain extent the smaller consumption of other classes of poultry.

Foreign trade in eggs and egg products declined severely during 1932. Adverse economic conditions abroad have inhibited imports from

the United States. The depreciated currency of many nations has been an added factor in preventing the outward flow of egg products from the United States. During the first eleven months of 1932, exports of shell eggs from the United States were only 2,000,000 dozens as against 7,000,000 for the similar period during 1931. Exports of egg products, while not of any great significance, dropped in 1932 to one-sixth (amount in weight) of what they had been during the previous year. Imports of egg products during 1932 have been only one-third of those received during 1931.

SHEEP

Supplies of lamb reaching eastern markets during our spring lamb marketing season are likely to be smaller in 1933 than in 1932. The number of lambs on feed for market is considerably below that of a year ago. No increase in the size of the California lamb crop is expected. The effect of the reduction in supplies upon prices, however, may be largely offset by the lower level of buying power of consumers.

The number of lambs and sheep on feed for market January 1, 1933, was estimated at 5,239,000 head, a decrease of about 900,000 head or 15 per cent from the number on feed January 1, 1932, and the smallest number on feed January 1 since 1929. About two-thirds of the decrease (or 600,000 head) was in the number on feed in the Corn Belt states, with most of this in the area west of the Mississippi River. The decrease in the western states, including Texas and North Dakota, was about 300,000 head.

Weather and feed conditions in California during November and December were very unfavorable in the early-lambing areas. Lack of seasonal rains in late 1932 has greatly delayed the growth of early grass and unusually cold weather in early December resulted in considerable losses of lambs and some losses of ewes. Supplies of old pasture feed are about exhausted and although hay and grains are abundant and cheap, the financial condition of most sheepmen is such that their ability to buy them is very limited. It is more than likely that there will be some decrease in the early lambs marketed by California sheepmen. There may be an abundance of late range feed and this will probably lead to a somewhat later marketing and may perhaps lead to somewhat larger lambs.

The lamb crop in the United States was 8 per cent smaller in 1932 than in 1931. This was only partly reflected, however, in decreased slaughter during the eight months of the crop-marketing year, May 1 to December

31. Inspected slaughter during these months was 11,855,000 head, a decrease of about 750,000 head for the same period in 1931. Nearly all of this decrease came in the three months, October, November, and December. The proportion of sheep to lambs in the slaughter during this eight-month period in 1932 was even smaller than the small proportion in 1931, since the very low prices for old and cull ewes restricted the marketings of these even more this year than last.

The trend of sheep and lamb prices has been sharply downward since early 1929. In April, 1929, when the decline began, the average price of

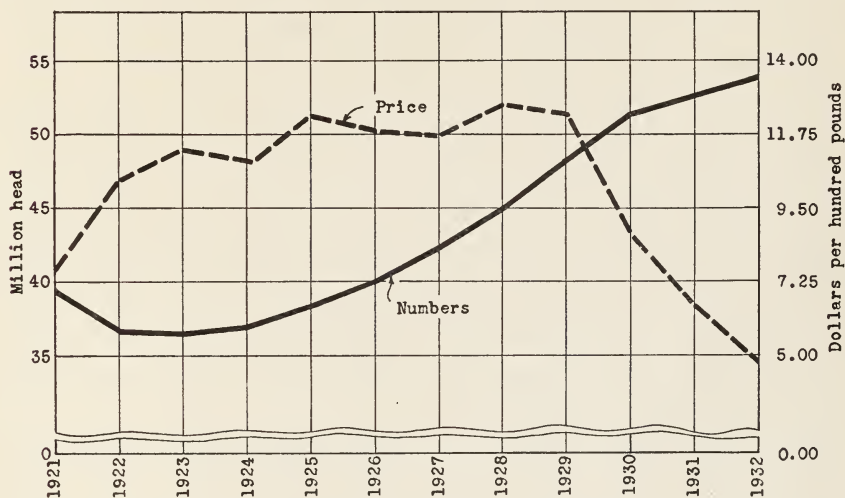


Fig. 10. Number of sheep and lambs on farms in the United States, and prices of lambs to California producers.

lambs at Chicago was \$16.82 and in December, 1931, it was \$5.32. Prices in early 1932 recovered somewhat from this very low level, but again declined during the spring, reaching in late May, the lowest level in thirty years. From June to mid-October, prices declined moderately. Since late October some advance in prices has occurred, and the average price of lambs at Chicago in December was \$5.82. The average price paid California producers for lambs during the entire 1932 season was \$4.20 per 100 pounds, as against \$6.75 in 1931 and an average of \$12.22 during the five years, 1925-1929.

With consumer incomes during 1932 smaller than in 1931 the demand for lamb and mutton was further reduced and the supplies were moved into consumption at greatly reduced prices. Per-capita consumption of federally inspected lamb and mutton during the first ten months of 1932 was substantially the same as that for 1931 but retail prices de-

clined approximately 13 per cent. Incomes of consumers during the 1933 spring lamb marketing season are not expected to be higher than they were during the last season. If supplies are as large as they were in 1931 it is difficult to imagine that prices for lambs can advance materially. This is especially true in view of the rather heavy supplies of beef, veal, and pork which will probably be available in 1933.

It appears unlikely that sheep numbers will increase in the United States during the next few years, but decreases are likely to be moderate. A material reduction in numbers of lambs and sheep on feed and apparently some reduction in total breeding sheep in the United States January 1, 1933, resulted from the reduced lamb crop and heavy death losses of early 1932. The lamb crop is likely to be larger in 1933.

The reduced lamb crop in the United States in 1932 was due to the sharp decrease in the number of lambs saved per 100 ewes, which was the smallest in the nine years for which estimates have been made. All of the decrease was in the western sheep states, where the decrease in the lamb crop of 1932 was 12 per cent. The native lamb crop of 1932 was a little larger than that of 1931. The small lamb crop in the western states was due to the very unfavorable weather at breeding time, the heavy losses of ewes in the late winter and early spring resulting from the severe weather and shortage of feed, and the rather heavy losses of young lambs in the early lambing areas.

The reduction in the number of breeding ewes in the western states on January 1, 1933, may not result in a decrease in the 1933 lamb crop in those states. The number of lambs saved per 100 breeding ewes on hand January 1 has averaged 80.0 for the last eight years. In 1932 it was 70.9. From evidence now available regarding ewe numbers there will be an increase in the lamb crop if the number saved per 100 ewes is equal to the average. The number of lambs saved per 100 ewes in the native sheep states in 1932 was somewhat above average. If it should be only about average in 1933, the decrease in this factor would probably only about offset the likely increase in number of breeding ewes in these states. Thus there is fair likelihood that the 1933 lamb crop may exceed that of 1932.

World wool production, favored by good seasons in the principal producing countries of the Southern Hemisphere, has been at a high level in recent years, with no prospect of any great reduction during the coming season. Limited alternatives open to sheep and wool growers are undoubtedly contributing to the maintenance of high production despite the low prices. Depreciated currencies in many countries have alleviated to some extent the influences of low prices. However, supplies have been fairly readily absorbed, and the outstanding feature of the current wool-

marketing season in the Southern Hemisphere has been the increased movement of wool during the first half of the season as compared with the same period last season.

Wool production in 1932 in twenty countries for which preliminary figures are available is estimated at 2,814,000,000 pounds, a decrease of 14,000,000 pounds, or one-half of 1 per cent, as compared with the large clip of 1931. These twenty countries furnish a little over four-fifths of the world's clip, exclusive of Russia and China. The fairly heavy decreases in the 1932 clips of the United States and New Zealand, and slight decreases in Argentina and the Union of South Africa, are almost balanced by increases in Australia and the United Kingdom.

After a decline in May, 1932, to the lowest level of the past fourteen years, consumption of combing and clothing wool reported by the United States manufacturers rose rapidly and for September was only 7 per cent below the 1931 high point. By November, consumption had declined 20 per cent but was still well above the spring low point. Consumption of combing and clothing wool for the first eleven months of 1932 was only 77 per cent as large as for the comparable period in 1931, but it was 93 per cent as large as during the first eleven months of 1930.

Wool prices in the United States continued their downward trend during the first half of 1932, then rose. Although prices at Boston at the close of 1932 were 10 to 25 per cent below January prices, they were considerably higher than at the year's low in July. During July, 1932, prices of wool at Boston reached the lowest levels since 1897. At the close of the year prices of grease wools were 15 to 20 cents a pound at Boston as compared with 19 to 24½ cents in January, 1932.

ASPARAGUS

Production of asparagus in California during the next few years is likely to be considerably in excess of the requirements for canning and for fresh shipments. This prospective surplus if uncontrolled may result in excessive shipments and disastrously low prices to growers. An industry program designed to limit the pack of canned asparagus and regulate the shipments of fresh asparagus would materially assist in alleviating the difficulties in prospect for the next two or three years. Asparagus growers would also benefit substantially if they postponed additional plantings for several years and immediately plowed out bearing acreage that is declining in productivity.

According to a survey made by the Cannery League of California there will be around 70,925 acres of asparagus in northern California to

cut in 1933, as against 65,422 acres in 1932 and an average of 54,415 acres during the previous three years. Production in 1933 is estimated to be about 5 per cent larger than in 1932 and 12 per cent larger than the 1929-1931 average. Of the total production of 3,904,000 cannery boxes in 1932, about 46 per cent was utilized for canning, 36 per cent shipped fresh, and 18 per cent unharvested because of low prices.

Carlot shipments of fresh asparagus from California in 1932 were the heaviest on record, amounting to 3,416 cars as against 2,663 cars in 1931 and an average of 1,466 cars during the five years 1926-1930. Competition from asparagus produced in other states was less than usual in both 1931 and 1932. Approximately 63 per cent of the total California shipments in 1931 and approximately 36 per cent in 1932 had moved to market before the shipping season in other states began, as compared with an average of only 27 per cent for the previous five years.

Although the competition which California fresh asparagus experienced in the eastern markets from supplies produced in other states was below average during the past two seasons, the heavy shipments from this state together with the pronounced decrease in the buying power of consumers resulted in a sharp drop in prices. The average price of California asparagus at New York in 1932 was \$2.73 a crate as against \$3.54 a crate in 1931 and an average of \$4.45 a crate for the previous five years.

The decrease in the buying power of consumers in this country has been accompanied by a substantial reduction in the demand for fresh asparagus. In 1932 the demand for California fresh asparagus in New York City was the equivalent of \$0.40 a crate below that of 1931 and of \$1.35 a crate below that of 1930. Demand conditions during the shipping season of the 1933 crop are likely to be even less favorable than in 1932. The index of factory pay rolls in March and April, 1932, was at 50.5 per cent of the 1923-1925 average as against 43.5 per cent in October, 1932. During the last three weeks of April, 1932, when unloads from California were the heaviest, the average price at New York was \$2.10 a crate which, after deducting packing, transportation, and selling charges, was equivalent to 1.9 cents a pound at the receiving door of the packing house. If the demand for California fresh asparagus in 1933 should be as much below 1932 as the latter was below 1931, shipments as large as those of 1932 would result in returns to growers being below the cost of cutting and hauling during the peak weeks of the season. Such a situation is not at all impossible in view of the lower level of consumers' buying power, the probability of greater competition from other asparagus, and the larger supplies available for shipment from this state.

The 1932 pack of canned asparagus amounted to 1,313,000 cases which, together with the carryover on March 1, 1932, of 1,059,000 cases, made a total supply of 2,372,000 cases available for shipment in the 1932-33 season. The largest volume ever shipped in any one season was 2,619,000 cases, and that was in 1929-30 when demand conditions were very favorable. In 1930-31 shipments fell to 2,028,000 cases and in 1931-32 to 1,646,000 cases. The buying power of consumers has been even lower in 1932-33 than it was in 1931-32. The effect of this reduction upon the consumption of canned asparagus has been largely offset, however, by a sharp decrease in prices. During the 1932-33 season prices of canned asparagus have been about 25 per cent lower than during the 1931-32 season. Shipments of canned asparagus during the 1932-33 marketing season are likely to be about 200,000 cases larger than in 1931-32, and the carryover on March 1, 1933, will probably be about 40 per cent smaller than the record carryover of 1,059,000 cases on March 1, 1932. There is no definite assurance of any material improvement in business activity and employment in this country during 1933. In order to avoid a demoralized market and an excessively large carryover into the 1934 season, it will again be necessary to limit the pack of canned asparagus below the quantity available for canning.

Over a period of years an increase in the buying power of consumers is expected, which will improve the demand for both fresh and canned asparagus. During the next two or three years, however, the effect of any improvement in demand upon prices to growers may be largely nullified by the prospective increase in production. Approximately 25,660 acres, or 35 per cent of the total acreage in the Delta district in 1932, were planted during the three years of 1929 to 1931. This acreage will continue to increase in production until 1935 or 1936. In 1932 about 2,000 acres were planted and another 2,000 acres is expected to be planted in 1933. Only a part of the prospective increase in production from the acreage planted since 1928 is likely to be offset by the removal of the older beds. In 1932 only 13 per cent of the total acreage was over ten years of age while 29 per cent was under three years of age.

ALFALFA

California alfalfa prices for 1933 are likely to average about the same as for 1932 unless alfalfa yields prove to be unusually high or unusually low during the coming season. Alfalfa prices in California are determined primarily by the tonnage of alfalfa cut for hay, the number of dairy cows in the state, and prices prevailing for feed concentrates.

There have been no indications of a change in the total California acreage of alfalfa to be cut for hay. No increase in the demand for alfalfa hay, arising from increased cow numbers in California in 1933 as compared with 1932, is to be expected. Little change in prices of feed concentrates is at present in prospect unless a widespread crop failure occurs among the major grain crops of the nation. Any change that does occur in the price of feed concentrates, however, is likely to be in the nature of an increase, particularly in the case of linseed meal and cottonseed meal because supplies of flaxseed and cottonseed are relatively short.

The price of U. S. No. 1 alfalfa hay averaged \$12.00 a ton at San Francisco and Los Angeles in 1932, which is \$3.00 less than for 1931, and \$10.25 or 47 per cent lower than the 1925-1929 Los Angeles average, and \$6.00 or 33 per cent lower than the five-year San Francisco average for the same period. The price decline was greater in Los Angeles because the southern part of the state has, since 1927, gradually changed from a deficit area for alfalfa hay to a situation in which enough hay is produced south of the Tehachapi Mountains to meet the requirements of the Los Angeles market. Receipts of all types of hay at Los Angeles averaged approximately 122,000 tons annually during the five years 1922-1926; of this amount, approximately 20 per cent originated in the San Joaquin Valley. According to Federal-State market news reports, receipts of alfalfa hay at Los Angeles averaged approximately 200,000 tons annually for the three years 1930-1932, of which only a very small percentage originated in the San Joaquin Valley.

Changes in alfalfa prices in California are largely a result of changes in any one or all of the three factors, the total tonnage of alfalfa cut for hay, the number of dairy cows in the state, and average prices of feed concentrates. Little change in the tonnage of alfalfa cut for hay in 1933 is to be expected unless the total rainfall for this season proves to be below normal. California crop-estimate data indicate that 2,836,000 tons were cut from 834,000 acres in 1932 as compared with 2,740,000 tons from 818,000 acres in the low-rainfall year of 1931. Except for extremely dry years such as 1924 and 1931 the California alfalfa acreage has been very stable. Practically all alfalfa acreage in California is irrigated; yields therefore tend to go below normal only when water supplies are exceptionally low.

Official data on livestock numbers in California on January 1, 1933, are not as yet available. Current information does not indicate that there will be a significant change in 1933 dairy-cow numbers as compared with 1932. Since 1928 the number of dairy cows in California has

been practically constant, the reported number for each of the years 1929–1932 being 637,000 head except in 1930, when the number reached 642,000 head. Certain sections of the state experienced decreased numbers during the latter part of 1932 owing to tuberculosis control measures, but many of the replacements have been and are being made with cows brought in from other states. Available information on 1933 California sheep numbers indicates that there will be a decrease as compared with 1932, but beef-cattle numbers are likely to show an increase.

Prices of feed concentrates are not likely to average materially different in 1933 from those prevailing in 1932, unless a widespread crop failure occurs among the major grain crops of the nation. The total 1932 United States production of corn, wheat, oats, and barley is estimated at 5,176 million bushels. This is 226 million bushels or 4.3 per cent more than the five-year 1924–1928 average. Carryover of these grains into the 1933 crop year is, therefore, likely to be above normal. Production of flaxseed and cotton, however, which has an important bearing upon the supplies of linseed and cottonseed meal, is below normal. The United States flaxseed production for 1932 is estimated at 11.8 million bushels, about the same as in 1931, which is equal to only one-half the 1924–1928 average of 23.3 million bushels. United States 1932 cotton production, which serves as a rough index of cottonseed supplies, is estimated to be approximately 2.0 million bales or 13 per cent under the 1924–1928 average, and is 4.4 million bales, or 26 per cent less than the huge 1931 crop of 17.0 million bales. California 1932 cotton acreage was 143,000 acres or less than one-half the three-year average for 1928–1930; production has fallen off correspondingly. Weighted prices of seven feed concentrates averaged \$20.00 a ton at San Francisco in 1932 as compared with \$25.00 a ton in 1931 and an average of \$41.00 for the five years 1925–1929.

BEANS

The present outlook is for a smaller United States supply of beans in 1933–34 than in 1932–33. The low prices now prevailing will tend to prevent an expansion in acreage. Yields per acre are not likely to be as high in 1933 as in 1932, when they were 17 per cent above the average of the previous five years. The carryover at the beginning of the 1933 season will probably be small as compared with that of the 1932 season.

The United States production of beans in 1932 amounted to 10,095,000 bags of 100 pounds each as against 12,662,000 bags in 1931, and an average of 11,821,000 bags during the five years 1927–1931. The smaller production in 1932 as compared with that of previous years was the

result of a marked reduction in acreages in practically all important bean-producing states, particularly in the western states. The United States production of Small White and Pea beans grown principally in Michigan and New York amounted to 4,631,000 bags which is 1,293,000 bags above the 1927-1931 average. The reduction of over 3,800,000 bags in all other varieties more than offset the increase in Small White and Pea beans. The harvested acreage in the United States in 1932 was 28 per cent below the 1927-1931 average.

Chiefly in response to the pronounced decline in the prices of beans during the past three years, there has been a substantial reduction in acreage, falling from 2,181,000 acres in 1930 to 1,348,000 acres in 1932. The average December, 1932, price of domestic Pea beans at New York was 38 per cent below that of December, 1931, and 66 per cent below that of December, 1930. In view of the low prices now prevailing there is little to indicate that growers generally will plant a larger acreage to beans in 1933 than was planted in 1932. An acreage equal to that of 1932 would, with average yields per acre, produce a crop of about 9,000,000 bags which is about 3,000,000 bags less than the average supply available for consumption in the United States during the five years, 1927-28 to 1931-32.

The United States carryover of beans in producing states at the beginning of the 1932 crop-marketing season amounted to about 2,000,000 bags which, together with the 1932 production of 10,095,000 bags, made a total supply of about 12,000,000 bags. This is about equal to the average annual consumption of the previous five years. Rail shipments, based on primary loadings during the first four months of the 1932 crop-marketing season, indicate that the quantity consumed in 1932-33 will be larger than the 1932 production, and that the carryover in producing states at the beginning of the 1933 crop-marketing season will be much below the 2,000,000-bag carryover of September 1, 1932.

Imports and exports of beans during the first three months of the crop-marketing season beginning September 1, 1932, were the lowest for that period during any of the last ten years. There were net exports of 10,000 bags during this three-month period as compared with net exports of 32,000 bags during the same months in 1931 and net imports of 98,000 bags during the same months of 1930. During the crop-marketing season September 1, 1931, to August 31, 1932, there were net exports of 72,000 bags as compared with net imports of 508,000 bags in 1930-31. The United States import duty on beans is 3 cents a pound. Until prices in this country exceed this tariff of 3 cents a pound, imports cannot be an important factor.

California bean acreage harvested in 1932 is estimated at 225,000 acres which is 109,000 acres less than in 1931 and 31 per cent less than the five-year 1927-1931 average of 327,000 acres. Production for 1932 was, however, not correspondingly less because of high yields. The average yield per acre for all varieties is estimated at 11.0 bags per acre as compared with the 1927-1931 average of 10.4 bags. California bean production for 1932 is estimated at 2,484,000 field-run bags which is 983,000 bags or 28 per cent less than the 1931 production and 27 per cent under the average for the years 1927-1931. California production was less in 1932 than in 1931 for all varieties except Pinks, California Reds, and Pintos. According to records of the California Bean Dealers Association, warehouse stocks of all varieties of beans in California warehouses on September 1, 1932, were 703,000 bags which is 14,000 bags more than the large stocks of September 1, 1931. Production and carryover of California beans for the crop year beginning September, 1932, amounted to approximately 3,187,000 bags as compared with 4,156,000 bags September 1, 1931. During the five years 1927-1931, carryover averaged 300,000 bags, and total supply at the beginning of the season averaged 3,692,000 bags. Total supplies of California beans, therefore, were relatively short at the beginning of the 1932 marketing season.

In spite of the declines in bean prices during the past few years, beans have not readily moved into consumption as is evidenced by the large carryovers in 1931 and 1932 and the relative quantity of beans on hand January 1, 1933. California warehouse stocks on hand January 1, 1933, are estimated at 1,896,000 bags which is 483,000 bags less than January 1, 1932, stocks but is equal to 59.5 per cent of production plus carryover at the beginning of the season. Through the five-year period 1927-1931, January 1 stocks averaged 48 per cent of total supplies at the beginning of the season.

The 1932 production of both Standard Limas and Baby Limas was materially less than in 1931 and less than the average of the preceding five years 1927-1931. Carryover was greater in 1932 than in 1931 but warehouse stocks on January 1, 1933, were less than on January 1, 1932. Standard Lima production for 1932 is estimated at 872,000 bags which is 192,000 bags less than in 1931 and 139,000 bags or 13 per cent less than the average of 1927-1931. Carryover of Standard Limas on September 1, 1932, amounted to 93,000 bags which is 59 per cent greater than the 1927-1931 average. The Baby Lima crop of 322,000 bags for 1932 was less than one-half of that of 1931 and 35 per cent under the 1927-1931 average. Baby Lima carryover from the 1931 crop, however, exceeded that of any other year, bringing the total supply for the 1932

crop year to 470,000 bags which is 13 per cent less than the average of the preceding five years. Standard Lima f.o.b. prices averaged \$4.37 a hundred weight during the four months September to December, 1932, as compared with \$4.98 during the same months in 1931. For the same periods Baby Lima prices averaged \$3.66 and \$3.33 respectively.

Pink bean production and carryover for 1932 exceeded that of 1931 by 32,000 bags. However, the 1931 crop of Pink beans was very short; the 1932 production of 505,000 bags is only 14,000 bags less than the 1927-1931 average and production plus carryover is only 7,000 bags below normal. Production of Pinto beans, grown principally in Colorado and competing with Pinks in consuming markets, has been curtailed drastically. The United States 1932 Pinto production is estimated at 753,000 bags which is 54 per cent of the 1931 production and is equal to only 39 per cent of the average of 1,946,000 bags for the five seasons previous to 1932. This marked curtailment of Pinto beans is a favorable situation for California Pink beans. California f.o.b. prices of Pink beans averaged \$2.98 a hundredweight during the four months September-December, 1932, and \$3.08 for the same months in 1931. California Pintos for the same months averaged \$2.54 in 1932 and \$2.60 in 1931.

Blackeye production has fallen off materially during the past two years. The production for 1932 is estimated at 275,000 bags as compared with 459,000 in 1931 and the very large crop of 852,000 bags in 1930. The low production is, however, offset to a considerable extent by the fact that 31 per cent of the 655,000-bag supply of 1931 was carried over into 1932. This brought the 1932 supply to 478,000 bags which is 80,000 bags less than the 1927-1931 average but is just equal to the average with the extremely high production of 1930 omitted. January 1, 1933, warehouse stocks are 277,000 bags as compared with 418,000 in 1932. Blackeye prices, September-December, f.o.b. California averaged \$3.03 a hundredweight in 1932 as compared with \$3.36 in 1931.

California production of Cranberries and Bayos was materially curtailed in 1932 as compared with 1931. A Cranberry production in 1932 of 71,000 bags was less than one-half of the 1931 crop and only 65 per cent of the average of the five seasons previous to 1932. The proportionate reduction was even greater in the case of Bayos. The 1932 production is estimated at 3,000 bags as compared with 20,000 in 1931 and a previous average of 16,000 bags. January 1, 1933, warehouse stocks of Cranberries are approximately normal but Bayo stocks are considerably below normal.

COTTON

The estimated world supply of American cotton for 1932-33 is now 25,700,000 bales. This is only 300,000 bales less than the record supply of 1931-32 and is 2,200,000 bales greater than the large supply of 1926-27. The supply for 1932-33 is considerably larger than total world consumption in 1930-31 and 1931-32 combined, and equal to twice last season's consumption. The carryover of American cotton at the beginning of the 1933 marketing season may prove to be nearly equal to the world consumption of American cotton during 1932-33. In the absence of a marked improvement in business activity and employment throughout the world, cotton prices in 1933 will again be low unless the United States crop proves to be very short.

World consumption of American cotton was 12,300,000 bales in 1931-32, an increase of 1,400,000 bales from 1930-31 which occurred largely through replacement of foreign cotton by American. With continued small supplies of foreign cotton, world consumption of American cotton in 1932-33 may again increase but probably by a smaller quantity than last season. The estimated world consumption of American cotton during the first four months of this season was a little over 450,000 bales or 11 per cent more than during the like period of 1931-32.

Consumption of all cotton in the United States was only 5,184,000 bales in 1931-32 as compared with 5,435,000 bales in 1930-31, and 7,116,000 bales in 1928-29. This was the lowest total mill consumption recorded since 1910-11 and on a per-capita basis the lowest since 1895-96. The decline from 1928-29, which amounted to 31 per cent, resulted from a drastic reduction in the industrial uses and exports of cotton fabrics, a marked reduction in stocks of goods in the hands of manufacturers and distributors, and a moderate decline in the consumption of fabrics in clothing and household uses. Domestic consumption fell 43 per cent from March to July of 1932; then it rose sharply. During the first five months of the 1932-33 season, consumption in the United States totaled 2,340,000 bales as compared with 2,191,000 bales in the corresponding period of 1931-32, an increase of about 7 per cent. Despite steadily declining industrial activity and consumer incomes, during most of 1931-32 the demand for cotton for clothing appears to have remained rather stable and was a major factor in maintaining cotton-mill consumption on a level somewhat above the general level of business activity.

Cotton-textile mill activity outside the United States was on the whole only slightly higher in 1931-32 than in the previous season. The consumption of American cotton, however, increased 1,800,000 bales, or 30 per cent, to 7,600,000 bales—the largest since 1928-29. A large part of this increase took place in the Orient. Consumption of American cotton in Japan alone increased more than 600,000 bales, to almost 1,600,000 bales. This made Japan the largest foreign consumer of American cotton last season. China likewise consumed record quantities of our cotton, the total for the season being almost 900,000 bales, an increase of more than 500,000 bales. The large increases in the Orient as well as the increases in Europe were largely the result of the combined effects of unprecedented supplies of American cotton and the very short supplies of Indian and Chinese cottons. However, the fact that the cotton-textile industry in the Orient maintained a high rate of activity despite the world depression was also an important factor.

The fact that prices of American cotton in European markets have continued low as compared to Indian prices has been an important factor influencing both foreign consumption and domestic exports. Exports of American cotton to Europe increased 816,000 bales or 37 per cent from August 1 to December 31, 1932, as compared with the corresponding period last season. Exports of Indian cotton to Europe, on the other hand, although about 50,000 bales larger than from August to December, 1931, were 200,000 bales or 49 per cent less than in the same period of 1930. Total exports of Indian cotton to the end of December were about 500,000 running bales, as compared with 670,000 bales in the first five months of last season and 1,240,000 bales from August to December, 1930—decreases of 25 and 60 per cent respectively.

The United States production of cotton in 1932 amounted to 12,727,000 bales, which is 4,400,000 bales less than the large crop of last season, and the smallest for nine years. This reduction came as a result of the smallest acreage since 1923-24 and a decrease in yield per acre to 162.1 pounds, or 20 per cent below 1931-32. Yields in 1932, however, were above the ten-year average 1921-1930. The area harvested in 1932-33 was 37,589,000 acres according to the December estimate, or 7.6 per cent less than in 1931-32 and 17.9 per cent below that of 1929-30. Much of this land has been planted in food and feed crops, and products for local markets. The increased acreage in food and feed crops reflects the realization on the part of farmers that incomes from cotton could not be depended upon to purchase these supplies. Prices of alternative cash crops have given little inducement to the substitution of these crops for cotton.

The acreage planted to cotton in 1933 will depend in considerable part upon farmers' decisions as to the quantity of food and feed crops they can use or dispose of advantageously in 1933-34. In most sections farmers have large supplies of home-grown food and feed but the increase in the number of cattle and hogs in the South during last year has increased feed requirements. Labor, fertilizer, and some of the other production costs, are lower than in the spring of 1932. Prices of most alternative crops are much lower than they were a year ago.

Boll weevils entered hibernation in larger numbers and were more generally distributed over the Cotton Belt in the fall of 1932 than for several years. Weevil damage, therefore, could easily be unusually heavy in 1933 should weather conditions be favorable to their development. In view of low incomes, farmers are not likely to spend much money in combating them. The application of commercial fertilizer on cotton dropped 39 per cent in 1932 and 63 per cent since 1929. It appears evident that the use of fertilizer will again be small in 1933. From October to mid-January rainfall in western Texas was lower than in any of the previous three years.

POTATOES

Planting intentions of potato growers in the United States indicate a reduction of between 3 and 4 per cent in total potato acreage in 1933 as compared with the harvested acreage of 1932. With a possibility of better growing conditions, however, the decrease in acreage is likely to be offset by higher yields which would result in a supply equal to, or greater than, that produced in 1932. With no material improvement in consumer purchasing power, and a continuation of heavy home-grown supplies in consuming areas, prices in 1933 will probably be low.

The acreage harvested in 1932 was approximately 3,368,000 acres, or 7,000 less than that harvested in 1931. The decrease of 53,000 acres in the 11 early-potato states was more than offset by the increase of 72,000 acres in the five central surplus late-potato states. In the rest of the country the 1932 acreage was a little smaller than the 1931 acreage. Yields per acre in 1932 averaged only 106 bushels as compared with 111 bushels in 1931, a record high yield of 123 bushels in 1928, and a five-year average (1927-1931) of 114 bushels. The production in 1932 amounted to 357,000,000 bushels, as compared with 375,000,000 bushels produced in 1931, and about equal to the average for the five-year period, 1927-1931. January reports on intentions to plant indicate an acreage in 1933 of about 3,270,000 acres with a yield near the five-year average of

114 bushels per acre which would produce a total crop of approximately the same size as that of 1931. Yields may be somewhat curtailed in some sections because of decreased use of fertilizer, and the average for the entire country may be reduced because of larger proportionate acreage decreases in areas having relatively high yields. It is reasonable to expect, however, that the United States yield in 1933 will be above the low figure of 106 bushels per acre harvested in 1932.

The reduced production in 1932 was mostly in the 11 early-potato states and in the Northeast. The 11 early-potato states produced a crop, commercial and noncommercial, of 30,000,000 bushels in 1932 as compared with 40,300,000 bushels in 1931, which is a reduction of 25 per cent. For 1933, growers in these states have indicated an intention to decrease their total potato acreage about 3 per cent. This is expected to be brought about through an 11 per cent decrease in the commercial early-potato acreage for shipping purposes, which acreage, however, represented only about one-third of their total potato acreage in 1932. The remaining two-thirds of the acreage, largely for home or local supplies in these early-potato states, is expected to be increased slightly in 1933. In 1932, yields per acre in the early-potato states were reduced by the severe freezes in the Gulf states and the drought following this freeze in these states and in Georgia, South Carolina, Virginia, and Maryland. If the 1933 yields approximate the five-year average (1927-1931) of 133 bushels per acre, there may still be produced a crop comparable in size to that of 1932, even with the contemplated reduction in acreage. The 1933 carryover of old potatoes is expected to be as large as in 1932.

Production in the 30 late-potato states in 1932 was estimated at 291,000,000 bushels, a reduction of 2 per cent below the 1931 production. For 1933, the planting intentions of growers' in these states indicate only a slight decrease from the 1932 acreage. The 18 surplus-producing states show a 6 per cent decrease while the 12 other late-potato states which produce potatoes mainly for home or local consumption, show intentions to increase their acreage 4 per cent. This would make a net decrease in the 30 late-potato states of about 4 per cent. In 1932 the yields per acre in the 30 late-potato states averaged 111 bushels, as compared with the five-year average (1927-1931) of 118 bushels. If weather conditions are normal in 1933, yields are likely to be nearer the average and production about the same as that of 1932.

RICE

Demand for United States rice during the 1933-34 season, according to present indications, will be little if any greater than in 1932-33. During the first five months of the 1932 rice-marketing year beginning August 1, export movement of rice from the United States was light as compared with the export movement of previous years. Total United States stocks of both rough and milled rice as of January 1, 1933, were greater than those of the same date in 1932. Exports of rice from San Francisco between August 1 and December 30, 1932, have, however, been above average. A large carryover of old rice into the 1933-34 season is in prospect for the southern states but no abnormal carryover for California is in prospect. The foreign market for American rice has been narrowed through depreciated currencies and foreign import duties.

United States acreage of rice in 1932 amounted to 869,000 acres, as against 978,000 acres in 1931, and an average of 952,000 acres during the five years 1927-1931. Yields per acre in 1932 were considerably below the high yields of 1931 and slightly below the 1927-1931 average yields. The 1932 production of rice for milling is now estimated at 1,086 million pounds, as against 1,256 million pounds in 1931. The smaller production, however, was partly offset by a larger carryover. At the beginning of the 1932 marketing season the United States carryover of milled rice amounted to 206 million pounds, as against 117 million pounds at the beginning of the 1931 marketing season and a five-year average of 120 million pounds.

Foreign outlet for United States rice during 1932-33 has been narrowed by reduced purchasing power and restrictions of imports in some of those countries that usually buy a large percentage of the United States rice. United States exports of all grades of rice to foreign countries during the five months August to December, 1932, amounted to 87.5 million pounds which is materially less than 109 and 112 million pounds in 1930 and 1931 respectively for the same months. The United Kingdom imposed an import duty of 1½ cents a pound (cleaned basis) on non-Empire rice, effective January 1, 1933. Some of the South American countries also imposed import duties on rice to stimulate domestic production. The very low prices of Oriental rice have practically excluded American rice from the Cuban market this year. In fact, to only a few foreign countries were shipments of American rice during the first five months of the current season as large as those for the corresponding period in 1931 or larger.

California rice production for 1932 is estimated at 317 million pounds (paddy basis) which is 10 per cent less than the average of the previous five seasons. This reduction as compared to the average was a result of decreased acreage. The 1932 rice acreage harvested is estimated at 110,000 acres, whereas the average of the five years 1927-1931, is 125,000 acres. California carryover of milled rice amounted to 56 million pounds on August 1, 1932. Proportionately this was not as excessive a carryover as was true of the carryover in the southern states, which was equal to twice the normal amount. The five-year 1927-1931 average carryover for California is 46 million pounds. California production in milled equivalent and carryover as of August 1, 1932, is estimated at 230 million pounds which is relatively small as compared with 257 million pounds in 1931 and a five-year average supply of 261 million pounds.

Rice exports from San Francisco go mainly to Hawaii, Porto Rico, Japan, and Canada. For the two crop years beginning August, 1930, and ending July, 1932, Hawaii and Porto Rico together took 78 per cent of the exports from San Francisco; Japan took 16 per cent; and Canada 3 per cent. Japan buys freely of the lower grades. Total exports from San Francisco averaged 171 million pounds for two crop years beginning August, 1930. Exports from San Francisco, including shipments to Porto Rico and Hawaii, for the first five months, August-December, of the current marketing year have exceeded exports for the same months in 1930 and 1931. Total San Francisco rice exports for August-December, 1932, amounted to 80 million pounds, as compared to 60 million pounds in 1931 and 69 million pounds in 1930. Porto Rico and Japan have been responsible for the major portion of this increase. San Francisco shipments of rice to Porto Rico for August to December, 1932, total 23.4 million pounds which is 44 per cent above the average for the same months in 1930 and 1931. Shipments from San Francisco to Japan, mostly low-grade rice, for the same five months totaled 15.6 million pounds, which is 24 per cent above that of a similar period in 1930. Japan is buying freely in spite of the depreciation of the yen as compared with the dollar. In December, 1932, the Japanese yen was worth only \$0.21; at par it is worth just a fraction less than \$0.50. Rice shipments from California to Japan were only about two-thirds of their normal amount for the marketing season of 1931. Shipments to Japan from August 1 to December 30, 1932, however, have amounted to approximately 13 million pounds which is only slightly under normal.

The San Francisco price of Fancy California Japanese rice averaged \$2.15 a hundred pounds during the five months August-December, 1932, which is \$0.07 above a \$2.08 average for Fancy Blue Rose rice at New

Orleans. For the entire marketing season August 1 to July 30, 1931-32, the San Francisco price averaged \$2.85 a hundred pounds, and the New Orleans price averaged \$2.65 a hundred pounds. During the five years 1927-1931 the San Francisco price averaged \$3.76 a hundred pounds and New Orleans averaged \$3.62 a hundred pounds.

The 1932-33 world supplies, outside of the United States, apparently are about as large as the world supplies in 1931-32. Production in countries reporting to the close of December, which account for roughly one-fourth of the world production, was slightly larger than a year previous. The 1932 crop in Japan is estimated at 18,972 million pounds, an increase of about 9 per cent over the 1931 crop. No production estimate is available for India, but the 1932 acreage was placed at 78,791,000 acres compared with 81,367,000, the comparable estimate in 1931. Reports suggest a good-sized crop in Siam on an increased acreage and a harvest in French Indo-China about as large as that of a year ago. Efforts on the part of foreign countries to be self-sustaining have been an important factor in maintaining acreage.

WHEAT

The world wheat market as well as the wheat market of the United States will again be burdened by heavy stocks of wheat at the beginning of the 1933-34 season. There is some prospect, however, that the 1933-34 world production of wheat will be smaller than that in 1932-33. Average yields were high in 1932 and may not again be high in 1933. Unless there is a more rapid recovery of business in the world generally than now seems probable, wheat prices during the 1933 crop-marketing season will again be low. Over a period of years a gradual recovery is to be expected from the present situation of burdensome stocks and disastrously low prices. The chief factor in the recovery is likely to be increased consumption arising out of improvement in business activity and employment rather than upon curtailment in the world wheat area. Except in years of generally unfavorable weather conditions or as a result of an extended period of low prices, world wheat acreage is not likely to fall below 250,000,000 acres.

The total wheat area of the world increased, according to present estimates, by 4,500,000 acres in the 1932-33 season. The 1932-33 acreage level, however, is approximately 3,000,000 acres below the estimated level of 1929-30. At the acreage level of 1932-33, the world, excluding Russia and China, would produce with average yields of 14.7 bushels per acre, crops totaling about 3,740,000,000 bushels as compared with an average disappearance during the last five crop years of almost

exactly the same quantity. During the last five years disappearance has ranged from 3,582,000,000 bushels in 1927-28 when world prices were much higher than in recent years, to 3,830,000,000 in each of the last two years. If consumption can be maintained at an average level of about 3,800,000,000 bushels or can be increased slightly, present acreage levels, in the absence of material shipments from Russia, would permit a fairly rapid reduction of stocks.

Russia, however, may export considerable quantities of wheat in years when its yields are good. Estimates of the Russian wheat area for 1932-33 were below those of the previous year; this was the first decrease in such an estimate since 1928. The estimated area increased from an average of 40,000,000 acres in the five years 1920-1924 to 92,100,000 acres in 1931. The larger production from this rapidly expanding wheat area was mostly absorbed by increased consumption within Russia. Nevertheless there has been an upward trend in Russian exports during the period. Russian wheat exports are probably more dependent upon governmental policy, both domestic and international, than are the wheat exports of any other country. During the last three years governmental policy has probably resulted in larger exports than would otherwise have been made, whereas a policy emphasizing an improved standard of living and a consequent increase in consumption might serve as a check on exports unless production were considerably expanded.

United States wheat exports during the next few years may be expected to face stronger foreign competition than formerly. Such competition comes not only from important surplus areas but from deficit areas where trade barriers and domestic agrarian aids have expanded wheat production. The competition from the great wheat-export regions of Canada, Argentina, and Australia continues strong because of the outstanding place that wheat holds in the agricultural economy of these countries; the generally lower transportation costs to seaports, especially in Argentina and Australia; and the depreciated currencies in each of these countries. Upward adjustments of wages and other cost items, usually associated with depreciated currencies, have been slight during the present depression. Wheat prices, in the domestic currencies of Australia and Argentina, were as high during part of 1932 as during corresponding periods two years earlier, while prices in the United States and Canada were generally only about one-half as high as in 1930. Canada as well as Australia shares the benefit of British Empire preference.

In most important deficit areas demand for foreign wheat is being reduced largely by increased domestic production and utilization, or is

being shifted to sources of supply where preferential trade situations exist. No general relaxation of world trade barriers is in prospect in most countries until considerable progress is evidenced in international agreements relating to trade barriers or in financial stabilization and general economic recovery. Even then, a return in Europe to the low post-war level of production is not to be expected. Efforts to increase yields per acre have been an important factor in the larger European production, and may have a continuing influence. Although immediate factors other than possible special trade-treaty developments are not particularly favorable for United States exports, our competitive position should improve with a lessening of foreign-currency depreciation or with readjustments to it, as well as through generally improved economic conditions with some reduction in trade barriers. There seems to be no present prospect that the United States will be completely driven out of the world wheat market.

United States net exports, including flour in terms of wheat, to January 1, 1933, totaled approximately 25,000,000 bushels. Continued exports at this rate would result in a season's total of around 50,000,000 bushels. If exports should equal this total and if wheat fed and lost should amount to about 100,000,000 bushels, apparently the domestic carryover of wheat on July 1, 1933, would be about the same as that of July 1, 1932, namely 363,000,000 bushels.

Pacific Northwest exports of both wheat and flour for the six months July–December, 1932, are much below the exports of the same months in 1931 and below the average of recent years. Flour exports total 713,817 barrels which is 1,000,000 barrels less than normal. Practically all of the decrease is accounted for by decreased shipments to China. Wheat exports for the same six months totaled only 2,065,000 bushels as compared to 15,675,000 bushels in 1931. All countries have curtailed their purchases of wheat from the Pacific Northwest; Europe and China decreased their takings markedly.

The surplus of wheat for export or carryover in the four principal exporting countries (United States, Canada, Argentina, and Australia) plus United Kingdom port stocks and quantities afloat, is estimated to be 1,024,000,000 bushels as of January 1, 1933, as compared with 1,035,000,000 a year earlier. Continental European import takings during the first six months of this season have been much below those of the previous season primarily because of large crops. Although the takings of importing countries can hardly be as much below last season's level during the second half of the season as during the first, it is probable that they will be smaller from January to June, 1933, than during the

corresponding months of 1932. It now appears that the reduction of surpluses in the four principal exporting countries, plus United Kingdom port stocks and quantities afloat, will be no larger and may not be as large from January 1 to July 1, 1933, as they were during that period last year. Hence the carryover in these positions on July 1, 1933, will probably be about as large as on July 1, 1932, or possibly a little larger.

There is little yet available to indicate the probable size of the 1933-34 world wheat crop. Yields for the world, excluding Russia and China, in 1932-33 were slightly above the average of the preceding twelve years, the very low yields in the United States being more than offset by higher-than-average yields in other countries. If yields outside the United States should be average in 1933-34, and if there should be no change in acreage, then the total production for the world, excluding Russia and China, would probably be somewhat below that of 1932-33, for there is the prospect of an even smaller winter-wheat crop in the United States in 1933 than in 1932. Such a decrease in the world crop, outside Russia and China, would more than offset any increase in accounted-for carryover that might occur.

BARLEY

The price of barley in California during the current crop year beginning June 1, 1932, is low as compared to the local price of wheat and to the price of barley in the principal grain markets of the Middle West. Information now available indicates that the California carryover of barley into 1933 will be very large. Unless, therefore, the 1933 barley crop is unusually short, the price of barley for 1933 in this state is likely to remain low as compared to the local price of wheat and to the price of barley in other markets.

The San Francisco price of feed barley has, during the seven months June-December, 1932, averaged \$0.63 a hundredweight as compared with \$1.05 a hundredweight for milling wheat. When expressed as a percentage of the price of wheat, it is equal to 55 per cent, which is a low ratio—the average ratio since 1920 is 71 per cent. The San Francisco price of feed barley since June 1 has averaged 3 cents under the price of feed barley at Minneapolis, whereas ordinarily the San Francisco price is considerably above the Minneapolis price. Generally the balance between California barley production on the one hand, and domestic feed requirements and export volume on the other, has been such as to place California on a deficit price basis for feed barley. As a result the California price has tended to be above the price of barley in surplus

areas. Occasionally domestic supplies have exceeded domestic requirements and export demand. When this occurs the California price is placed on a surplus basis.

The 1925 and 1926 seasons are examples of a surplus situation. The California crops of these two seasons were not unduly large but feed requirements had been reduced. Reduced feed requirements were occasioned by a 150,000 head reduction in beef-cattle numbers in California. This was partly due to the slaughter made necessary by foot-and-mouth disease. Numbers of hogs in California were also declining in 1925 and 1926. Barley exports in 1925 and 1926 were above average but not sufficiently above average to cause a shortage of feed barley.

At the time of harvest in 1932, California barley supplies reached an unusually large volume of slightly over 1,000,000 tons, which is 25 per cent above normal. This large supply is a result of a very large crop of 948,000 tons, as compared with a five-year 1926-1930 average of 737,000 tons. Carryover from the 1931 crop amounted to 63,000 tons, which is approximately normal. Export volume of California malting barley, though much greater than during the months immediately following England's abandonment of the gold standard late in September, 1931, is still not equal to the volume exported during the same months of the period 1926-1930. The export volume for the first seven months of the present season beginning July 1 is reported at 104,000 tons; the 1926-1930 average for the same seven months is 155,000 tons. In view of the low price of barley, it is probable that exports for the entire 1932-33 season may reach 200,000 tons. Domestic utilization for feed and seed during the five years 1926-1930 has averaged 428,000 tons. At present low prices it is probable that domestic utilization for 1932-33, may reach 500,000 tons. If this proves to be the case, approximately 700,000 tons will be disposed of, leaving a prospective carryover into 1933 of about 300,000 tons. In the event that acreage for the 1933 harvest is equal to the 1926-1930 average of 1,050,000 acres and average yields are obtained, a harvest of about 737,000 tons may be expected. With the prospective large carryover at the beginning of 1933 this would again place supplies above 1,000,000 tons. An amount as large as this is almost certain to exceed the combined requirements of exports and domestic feed in 1933-34.

